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NOTE ON TRANSCRIPTION

Vedic and Sanskrit are transcribed here according to the usual Kyoto-Harvard system. Old Iranian presents a number of challenges in a 7 or 8 bit system. The Avesta alphabet is represented here as follows.

a A á Ā Ċ a ~ a.~ @ (schwa) @@ (long schwa)

e ø ō x i I u U

k x x' xv g g' gh

c j

t th d dh t ~

p f b w

ng ng' ngv n n' n~ m m~

y' y v r

s z S Z S' S~

h

In non-MachIntosh machines some of the above Avestan vowels will have strange results. In other languages, similar conventions are followed, e.g. Z=sh, velar fricative = gh, a~ nasalised a, etc. Paragraph sign = \$. Note that not all diacritical marks of Burushaski, etc., could be represented in this 7/8 bit email version.

A web version with better diacritics (using Acrobat Reader, etc.) will be available soon at our website.

Due to its length the paper is sent in four parts, a, b, c, d (as indicated below)

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Substrate Language in Old Indo-Aryan

(Rgvedic, Middle and Late Vedic)

<part a>

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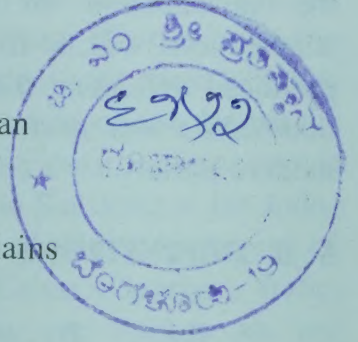
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Abbreviations and Bibliography

Annotations

The languages spoken in the northern part of the Indian subcontinent in prehistoric times have been discussed throughout most of this century. This concerns the periods of the Rgveda and the Indus or Harappan Civilization (nowadays also called Indus-Sarasvathi civilization in some quarters). Since the Twenties, the area of the newly discovered Indus civilization has been regarded, beginning with J. Bloch, as having been populated by Dravidian speakers, while other early 20th century scholars such as S. Le'vy and J. Przyludski have stressed the Austro-Asiatic (Munda) substrate of Northern India, -- both are positions that have been maintained until today (e.g., Burrow, Emeneau, Parpola vs. Kuiper, Hock, Southworth). The relationship of these languages to the archaic (Vedic) form of Sanskrit has played a

major role in such discussions. Both Dravidian and Munda have usually been understood as having preceded, as substrate languages, the introduction of Old Indo-Aryan (Vedic Sanskrit). Such suppositions will be investigated in this paper, and evidence will be produced indicating that the linguistic picture of this early period of South Asia was much more complex -- as complex, indeed, as that of modern India.

\$ 0. DEFINITIONS

\$ 0.1. By way of introduction, as few definitions are in order. First of all, it must be stressed that Vedic, Dravidian and Munda belong to three different language families (respectively, Indo-European, Dravidian and Austro-Asiatic). Since this is no longer recognized in some of the more popular sections of the press and the publishing business, it must be pointed out that the recognition of basic differences between language groups (in word formation, declension, conjugation and in syntax) is a well established item of linguistic science that applies to all human languages (summaries by Hock 1986, Anttila 1989). One cannot make an exception just for the subcontinent and claim that South Asian languages are so similar that they belong to a new linguistic 'family' (S. Kak).

What South Asian languages indeed have in common are certain features, especially some of syntax, that are due to long standing bilingual contacts and that make them appear superficially similar, just as, for the same reasons, the Balkan languages Rumanian, Bulgarian, Albanian, and Greek share some peculiarities which make translation between them easy. Nevertheless, nobody in Europe or elsewhere would deny that they belong, respectively, to the Romance, Slavic, Albanian and Greek sub-branches of Indo-European (IE), and it is not maintained that they form a new 'Balkan family'.

Of course, the South Asian languages also share a lot of common cultural vocabulary derived from Sanskrit (sometimes effectively disguised by the development of the language in question, especially in Tamil), just as European languages, whether IE, Uralic, Basque or even Turkish share many Greek and Latin words of culture and science, and more recently, of technology.

\$ 0.2. Secondly, the materials available for this study have to be reviewed briefly. Since we cannot yet read the Indus script with

any confidence (Possehl, 1996b, discusses the rationale of some 50 failed attempts), we have to turn to the Vedic texts first.

I will concentrate here on evidence from the Vedas as they are earlier than Drav. texts by at least a thousand years. This also has the advantage that the oldest linguistic data of the region are used, which is important because of the quick changes that some of the languages involved have undergone. The Vedas provide our most ancient sources for the old Indo-Aryan variety (IA; OIA = Vedic Sanskrit) of the Indo-Iranian branch (Iir. = Old Iranian, Nuristani and Old Indo-Aryan) of the Indo-European language family (IE = Celtic, Germanic, Italic, Slavic, Greek, Hittite, Tocharian, etc) that are spoken in the subcontinent. However, these texts also contain the oldest available attestation for non-Indo-European words in the subcontinent (Dravidian, Munda, etc.)

§ 0.3. The Vedas were orally composed (roughly, between 1500-500 BCE) in parts of present day Afghanistan, northern Pakistan and northern India. To this day, their oral transmission has been exceptionally good, as is commonly known. They are followed by the early Dravidian sources, represented by the ancient Tamil “Sangam” (Cankam) texts of South India (stemming from the beginning of our era); however, these texts still are virtually unexplored as far as non-IA and non-Drav. substrates and adstrates from neighboring languages are concerned. From a slightly earlier period than the Sangam texts comes the Buddhist Pali canon of (western) Northern India; it has been composed in an old form of Middle Indo-Aryan (MIA). The Epic texts (mahābhārata, rāmāyaṇa) were composed by a host of bards from various parts of northern India in a form of Sanskrit that is heavily influenced by MIA.

In order to evaluate the substrate materials, the time frame and the geographical spread of these texts have to be established first. The procedures to arrive at a fairly secure dating cannot be discussed here in any detail; this would take another long paper. It may suffice to point out (Witzel 1987, 1989, 1995, 1999) that the R̥gveda (RV) is a bronze age (pre-iron age) text of the Greater Panjab that follows the dissolution of the Indus civilization (at c. 1900 BCE) – which limits its time frame to (maximally) c. 1900 – 1200 BCE; the latter date is that of the earliest appearance of iron in the subcontinent. The RV is followed by a number of other Vedic texts, usually listed as saṃhitās, brāhmaṇas, āraṇyakas and upaniśads. Linguistically, however, we

have to distinguish five distinct levels: (1) Rgveda, (2) other SaMhitAs (mantra language), (3) Yajurveda saMhitĀ prose, (4) earlier and later BrĀhmaNas (incl. Āraṇyakas and Upanisads) and (5) the late Vedic sutras (Witzel 1987, 1997; for abbreviations of names of texts, their dates and their geographical location see attached list).

While the area of the RV, as clearly visible in the mentioning of the major rivers, is the Greater Panjab (with the inclusion of many areas of Afghanistan from Sistan/Arachosia to Kabul/Gandhara), its temporal horizon consists of three stages, roughly datable between c. 1700-1200 BCE (Witzel 1995, 1999, J.R. Gardner, Thesis Iowa U. 1998, Th. Proferes, Ph.D Thesis, Harvard U. 1999). They are:

I. the early Rgvedic period¹: c. 1700-1500 BCE: books (maNDala) 4, 5, 6, and maybe book 2, with the early hymns referring to the yadu-turvaza, anu-druhyu tribes;

II. the middle (main) Rgvedic period, c. 1500-1350 BCE: books 3, 7, 8. 1-66 and 1. 51-191; with a focus on the bharata chieftain sudAs and his ancestors, and his rivals, notably trasadayu, of the closely related Puru tribe.

III. the late Rgvedic period, c. 1350-1200 BCE: books 1.1-50, 8.67-103, 10.1-854; 10. 85-191: with the descendant of the pUru chieftain trasadasyu, kuruzravaNa, and the emergence of the super-tribe of the kuru (under the post-RV parikSit, Witzel 1997). These levels have been established, not on the basis of linguistic criteria, but on the basis and by the internal criteria of textual arrangement, of the 'royal' lineages, and independently from these, those to the poets (Rsis) who composed the hymns. About both groups of persons we know enough to be able to establish pedigrees which sustain each other. Applying this framework to the linguistic features found in the various maNDalas of the Rgveda, we are in store for some surprises.

\$ 0.4. Before coming to this, however, another item must be discussed briefly, that of the concept of substrates. The RV contains some 300 words, that is roughly 4% of its hieratic vocabulary, that are not Indo-Aryan (Kuiper 1991). It is possible to establish their non-IA character by studying their very structure. For, words belonging to a certain language follow well-established patterns. The word structure of English (or IE in general) is well known. In English,

¹ Settlement in Gandhara/Panjab: early books, 5, 6 up to Yamuna/Ganga, e.g. atri poem 5.52.17; the relatively old poem 6.45. 13 has gAGgya, next to chieftain bRbu

for example, a word cannot start with tl-or pt-. Words such as Tlaloc, an Aztec god, are impossible, and those in pt-are loans from Greek, such as Ptolemy. Whorf's structural formula of English monosyllabic words (Language, Thought and Reality, 1956; simplified):

$$\{0, (s+/-) C-ng + V + 0, C-h\}$$

allows to predict that English words beginning in ngo- or ending -goh are not possible. If ng-or nk-do occur now, they are late loans from African languages (e.g., Nkrumah); or, before the influx of Yiddish or German words into American English, sh + consonant also was not allowed, while we now have: to shlep or strudel, as opposed to older words such as to slip or to stride. These examples also show that foreign words can enter a host language in pronunciations close to their original ones (however, strudel does not have the German but the American -r-), and that, at the same time, at they can easily be detected if they violate the original structure of the language in question.

IE nouns and verbs have three parts: root (dhAtu), suffix (pratyaya) and ending, such as dev-a-M zaMs-a-ti "he praises the god." The root (dhAtu), the part of the word carrying the lexical meaning (dev "heavenly", SaMs "praise"), is enlarged by suffixes (immediate/primary: kRt, secondary: taddhita). They are attached (here: -a-) to the root and are followed by the noun endings (-m) or verb endings (-ti). IE roots ordinarily have three consonants, and can only have the structure given below, where () indicates possible appearance; b is very rare in IE; C = consonant (includes the laryngeal sounds, H – h1, h2, h3); e = standard IE vowel (> Skt. A); it can change to o (> Skt. a), E, o (>Skt. A) or disappear (zero forms); R = resonants, the "semi-vowels" y, r, l, v and m, n which can also appear as i, R, L, u, a, a; further, s when found at the beginning of roots, is unstable and can disappear (as in spaz 'spy' : paz-ya-ti 'he sees'). IE/IA/Vedic roots must conform to the following formula (Szemere'nyi 1970):

Prefixes +/- {(S) (C) (R) (e) (R) (C/s)} +/- suffixes

Possible thus are, e.g., Skt. ad (eC), pat (CeC), zrath (CreC), bandh (CeRC), kR (CR), zru (CRR), kram (CreR), krand (CreRC), I (R), is (RC), man (ReR), manth (ReRC), tras (Cres), tvakS (CreKs), stambh (sCeRC), svap (sReC), sas (ses) etc.; with laryngeals: bhU (CRH), brU (CRRH), IkS (HRCs), as (Hes), etc. Sounds inside a root are arranged according to the following order of preference: C/s R-e, thus : CRe (Skt. zram...), sRe- (Skt.srav...) are allowed, but not: Rce-, Rse- (Skt. *Rka..., *usa...). Not allowed in IE are the following

consonant groupings in a root, the types: bed, bhet, tech, pep, teurk/tekt (Skt. *bad, bhad, tabh, pap, tork, takt) This classification of possible roots often allows to classify non-IE roots and words at a glance.

The number of primary suffixes is limited to certain types, usually *Ce, CR, Cre, R, Re, es (Skt. -ta, -ti, -tra, -I, -ya, -as) etc. Secondary suffixes build up on the primary ones, thus Skt. -u-mant, -a-tAt, -a-mAna, etc. On the other hand, suffixes such as -Aza, -Ta, -an-da/-a-nda-, -bUth-a/-bU-th-a (see below) do not exist in IE and Iir. Therefore, the very structure of many of the 'foreign' and loan words in the RV simply do not fit the IE structure of those properly belonging to Ved. Sanskrit (just as Nkrumah, Mfume must be foreign words viz. recent loans in English). Consequently, RV words such as kInAza, kIkTa, pramaganda, BalbUtha, Brbu, Brsaya are simply not explainable in terms of IE or Iir: the verbal/nominal roots kIn, kIk, mag, balb, bRs, do not exist in IE as only roots of the format { (cons.) (R) (cons) } are allowed and as b is very rare in IE; further, only S (but not s) is allowed in Vedic after i, u, r, k, and finally, the suffixes -A-za, -Ta, -an-da/-a-nda-, -bUth-a/-bU-th-a do not exist in IE / Iir.

§ 0.5. The structure of RV words has already been studied at some length by former colleague at Leiden and one of my several great teachers, F.B.J. Kuiper (1991, cf. 1955). However in this small book, written at the age of 85, he limited his task to a discussion of their structure and to pointing out some features which link them to Dravidian and Munda, and, as he conceded, "maybe to some unknown language (s)." Therefore, he did not proceed to discuss the Indus language, nor did he study the various levels of Rgvedic speech beyond the usual division into older (books 2-7, etc.) and late RV (book 10). However, as soon as we apply the three stage levelling discussed above, a different picture of the RV and the subsequent Vedic texts emerges than known so far. To sum up, we can distinguish the following substrate languages.

- A Central Asian substrate in the oldest Rgvedic;
- RV I: no Dravidian substrate but that of a prefixing Para-Mundic (or para-Austro-Asiatic) language, along with a few hints of Masica's U.P. Language "X", and some others;
- RV II and III: first influx of Dravidian words;
- Post-RV (YV, AV Mantras <MS, KS, TS, VS, AV, PS> and later Vedic): continuing influx of the same types of vocabulary into the

educated Vedic speech of the Brahmins; occurrence of Proto-Munda names in eastern North India.

- Other substrates include Proto-Burushaski in the northwest, Tibeto-Burmese in the Himalayas and in Kosala, Dravidian in Sindh, Gujarat and Central India, and predecessors of remnant language groups, now found in isolated pockets of the subcontinent (Kusunda in C.Nepal, pre-Tharu in S. Nepal/UP, Nahali in C. India, and the pre-Nilgiri and Veda substrates).

So far, linguists have concentrated on finding Dravidian and Munda reflexes, especially in the oldest Veda, the Rgveda (RV). These studies are summed up conveniently in the etymological dictionaries by M. Mayrhofer (Indo-Aryan; KEWA, EWA), Th Burrow- M.B. Emeneau (Dravidian; DED, DEDR), and in the work of F.B.J. Kuiper (Munda/Austro-Asiatic; 1948, 1955, 1991, Binnow 1959). In addition, it has especially been F. Southworth who has done comparative work on the linguistic history of India (IA, Drav., Munda) during the past few decades; his book on the subject is eagerly awaited.

These items will be discussed in some detail below, including a discussion of the procedures followed as well as some examples for these substrates. Finally, the conclusions we have to draw from the complex linguistic picture of Vedic times will be discussed.

\$ 1. Greater Panjab

\$ 1.1. Rgveda substrate words.

The RV reflects the Panjab and its immediate surroundings of C. 1500-1200 BCE., most clearly visible in its river names, extending from the Kabul River to the Yamuna (mod. Jamna) and even the Ganges (gaṅga, mentioned only twice) and it represents evidence from the three subsequent historical periods mentioned above. It is important to note that RV level I has no Dravidian loan words at all (details, below \$ 1.6); they begin to appear only in RV level II and III.

Instead, we find more some three hundred words from one or more 'unknown language (s), especially one working with prefixes. Prefixes are typical neither for Dravidian nor for Burushaski (cf. Kuiper 1991: 39 sqq., 53, see below). Note that the "prefixes" of Tibeto-Burm. (Benedict 1972) do not agree with those of the RV substrate either. Their presence apparently excludes also another unknown language which occasionally appears in the RV and more frequently later on with typical gemination of certain consonant groups

(perhaps identical with Masica's "Language X" 1979, see below; cf. Zide and Zide 1973:15). The prefixes of the RV substrate are, however, close to, and in part even identical with those of Proto-Munda; taking my clue from Kuiper (1962: 51, 102; cf. now Zide MT II: 96), I will therefore call this substrate language Para-Munda for the time being.

§ 1.2. Para-Munda loan words in the Rgveda

We can start with the convenient list of Kuiper (1991), who does not, however, discuss each of the 383 entries (some 4% of the hieratic RV vocabulary!) This list has been criticized by Oberlies (1994) who retains "only" 344-358 words, and minus those that are personal names, 211-250 'foreign' words². One can, of course, discuss each entry in detail (something that cannot be done here), but even Oberlies' lowest number would be significant enough, in a hieratic text composed in the traditional poetic speech of the Indo-Iranian tradition, to stand out, if not to surprise. It is a clear indication of a strong substrate and of amalgamation of IA speakers with the local tradition. In evaluating this list, it must be said that it is much more difficult to discern Para-Munda/Austro-Asiatic words, than to establish IA or Dravidian etymologies, as an etymological dictionary of Munda is still outstanding (in preparation by David Stampe *et al.*). Nevertheless, one can, for the time being, make use of Pinnow's reconstructions of Proto-Munda in his investigation of Kharia (1959), Bhattacharya's short list (1966: 28-40), Zide & Zide's discussion of agricultural plants (1973, 1976), and Kuiper's relevant studies (especially 1955, 1991; his 1948 book is still very useful, in spite of his own disavowal of it, as a collection of relevant materials). It must be stressed that neither the commonly found Drav. nor Munda etymologies are up to the present

² Oberlies' criticism is written from an IE-centered point of view similar to that of Mayrhofer (EWA). This is fine from the point of view of someone who has to write an etymological dictionary of OIA; however, due to the clear attestation of cultural, ethnical and religious amalgamation of Iir/IA and local elements visible in the RV, the existence of such a large number of 'foreign' words must not be minimized in its importance. Nor does Oberlies offer an explanation or analysis of the remaining 250 words: they are simply 'non-IA'. In a similar vein, R.P. Das has written a much more 'engaged' review of Kuiper's book, tellingly entitled 'The hunt for foreign words in the Rgveda' (IJ 38, 1995, 207-238), which induced Kuiper to write a well-deserved, rather scathing reply in the same volume. It is difficult to understand, in view of the well-known evidence (added to in this paper), how one can regard the language (and religion, culture) of the Regvedic Arya as 'relatively free from foreign influences' (Oberlies 1994: 347. "Pristine" languages and cultures do not exist, nor did they at c. 1500 BCE

standard of linguistic analysis, where both the root and all affixes are explained. This is why most of the subsequent etymologies have to be regarded as preliminary. (Note that only a few examples are given below for each category; fuller details will be included in a forthcoming paper and monograph).

Among the '300 foreign' words of the RV, those with certain prefixes are especially apt to be explained from Para-Munda (Viz. directly from Austro-Asiatic). However, "owing to the typological change that has taken place in these languages, only some petrified relicts remain" (Kuiper 1991: 39). Typical prefixes in modern Munda are such as p-, k-, m-, ro-, ra-, ma-, a @-, u-, ka- (Pinnow 1959:10 sqq.; cf. also the plural suffix -ki in kharia, p. 265 §341a, 211 §145c); some of them are indeed attested in the c. 300 'foreign words' of the RV.

Of special interest for the RV substrate are the prefixes ka-, ki-, kI-, ku-, ke-, which relate to persons and animals (Pinnow 1959: 11; cf. p. 265 §341a) and which can be compared, in the rest of Austro-Asiatic, to the 'article' of Khasi (masc. U-, fem. Ka-, pl. ki-, cf. Pinnow 1959: 14). The following words in the RV are important, even if we cannot yet find etymologies. (In the sequel, Sanskrit suffixes and prefixes are separated from the substrate word in question).

The Prefix ka-:

kakardu 'wooden stick', EWA I 286 'unclear';

kapard-in 'with hair knot', Kuiper 1955: 241 sqq.; EWA I 299 'non-IE origin probable'; kabandh-in,

kavandha 'barrel' Kuiper 1948: 100. EWA I 327 'unclear';

kAkambIra 'a certain tree', EWA I 334 'unclear'.

The prefix ki-:

kimId-in 'a demon', EWA I 351 'unclear'; cf. zimida, zimidA 'a demoness', Kuiper 1955: 182;

kIkTa 'a tribe' 3.53.14; EWA 'foreign name of unknown origin'; prefix kI-points to Austro-As.; cf. Sant. KaT- 'fierce, cruel'. Or common totemic tribal name (like mara-Ta PS : Munda mara□ 'peacock' IA matsya 'fish', kunti 'bird') ~ Sant. KaTkom 'crab'? cf. Shafer 1954: 107, 125;

kIkasA (dual) 'vertebra, rib bone' 10.163.2, EWA I 355 'unclear'; "formation like pi-ppala, etc. and connected with lex., Kazeruka...." Kuiper 1955: 147;

kIja 'implement, spur?', 8.66.3; EWA I 355 'loan word possible'; KEWA I 214 and Kuiper 1955: 161, 165: 'doubtful Drav. Etym. ' (Burrow, BSOAS 12: 373);

kInArA dual, 'two ploughmen' 10.106.10; EWA I 356 'probably artificial for kInAza', rather z/D/r. Kuiper 1948: 6, 38, 1991: 30-33, and 1955: 155f., 1991: 26 on suffixes -Aza/-Ara. (cf. also -na/-ra in rAspina/rAspira); on z as hyper-Sanskritization of S/r cf. vipAz; Kuiper 1001: 46 on suffix -za; if kInAra- contains a suffix then probably no prefix kI-.

KInAza 'plough man' 4.57.8 (late).AV; Kuiper 1955, 1991: 14, 26, 46 see kInAra; EWA I 356 'unclear'.

KIIAla 'biestings, a sweet drink'; in AV 4.11.10 next to kInAza; EWA I 358 'unclear': discussion, above: Khovar kilAI. Nuristani kila'etc., Bur. KIIAy, Kuiper 1955: 150f., CDIAL 3181.

kIsta 'praiser, poet' 1.127.7.6.67.10, to be read as [kis@tAsaH] Kuiper 1991:23, 1955:155; the unusual sequence -Is- (see introd.) points to a loan word (Kuiper 1991:25); EWA I 358 'not clarified'; cf. Kuiper 1991: 20, 23, 25; to be compared with RV zISTa 8.53.4 with var. lect. ZISTeSu, zIrSTeSu, zIrSTresa, Kuiper 1991: 7, 71; this is Sanskritization of *k'Is/teSu, Witzel 1999; cf. EWA II 644

ku-:

kumAra 'boy, young man', EWA I 368 'not convincingly explained'; cf. CDIAL 3523, 13488; Kuiper 1955:146f. compares Tel. Koma 'young', Tam. Kommai, etc.; cf. zi (M) zu-mAra (see below); but note, in Munda:m @ndra, m@r 'man' (pers.comm. by D.Stampe).

kurIra 'women's hair dress', 10.92.8, EWA I 371 'unclear', Kuiper 1955: 152, 1991:14, 29-31 compares Tam. KoTu 'horn, coil of hair', DEDR 2200

kuruGga 8.4.16, name of a chieftain of the turvaza (cf. Kuiper 1991: 6, 17); EWA I 371 'unclear'; however, cf. kuluGga 'antelope', and the frequent totemistic names for the Munda

kuliza 'ax', EWA I 374 'not securely explained'; Kuiper 1955: 161, 163 compares Tam. Kul-ir 'battle ax'; Skt. kuThara, kuddAla 'hoe', and Sant., Mundari kutam 'to beat, hammer', Mundari, Ho kutasi 'hammer', Kan. KuTTu 'to beat, strike, pound'; cf. Kuiper 1991: 14; Berger 1963: 419 * kuDiza, from *kodez in Kharia khoNDe□j 'ax', Mundari koNDe□j 'smaller kind of wood ax', with prefix kon- and Kharia te□j 'to break'

Double prefixes in C@r-.

More important, perhaps, are the so-called 'double prefixes' in Austro-Asiatic, composed of a prefix (e.g. k-) followed by a second prefix (mostly -n, see Pinnow 1959:11). The use of k-n- is clear in names of domesticated animals, in Sora kin-sod 'dog': Kharia solog 'dog': Sora

kim-med 'goat': Remo -me□; k@m-bon 'pig' : Juang bu-tae (see Pinnow 1959: 168. cf. Jpn. Buta, Austr. > Sino-Tib. *mba (gh); Sora ken-sim 'chicken': Mundari sim. Such double prefixes seem to be rarer in Munda now than in Eastern Austro-Asiatic: cf., nevertheless, Kuiper 1991: 94 on zar-varI 'night': za-bala 'variegated'; Kuiper 1948: 38 on kal-, kil-, p. 138 on the prefix k-, 1948: 49f. 'prefix k@-, kar-, and gala-: note: Sora kAr-dol 'being hungry. (D.Stampe, oral communication).

The clearest Vedic example is, perhaps, Ved. Jar-tila 'wild sesame' AV: tila 'sesame' AV, (cf. tilvila 'fertile' RV, Kuiper 1955: 157, tilpiJJa, -I 'infertile sesame' AV, on Sumer. connections s. below). Double prefixes are typical for the Rgvedic loans, especially formations with consonant-vowel-r-C@t- (and also C@n-, c@m-), that were adapted in Vedic with various IA vowels (R, ur, etc., see Kuiper 1991: 42 sqq.; cf. below on Nepalese substrate words). Example with C@r (and due to the common Vedic interchange of r/l, also C@l-) include:

KaraJJa name of a demon, EWA I 310 'unclear', cf. the tree name karaJJa, DEDR 1507 Kan., Tel. KAnagu, Konda karaG maran etc.; CDIAL 2785.

Karambha 'gruel'. Kuiper 1991: 51 sqq. Compares loan words with -b->-bh-(Pkt. Karamba 'gruel'); -- rather with a prefix kar- And popular etymology with ambhas- 'water'RV. or ambu 'water'Up., Mbh. Kuiper 1991: 63; cf. also Kurukh. Malto amm 'water', but also Tamil am, Am DEDR 475, 2070, 3293;

KhargalA 'owl' 7.104.17 (late), EWA I 448

KalmIk-in 'shining' 2.33.8; EWA I 325 'unclear'; however, cf. kalmASa 'spotted'. Kuiper 1948: 48; see below on kilbiSa Further: kR-[k@r-], see Kuiper 1991: 40 sqq., 23:

KRpITa 'bush. Brush' EWA I 394 'unclear', cf. falso kRmuka 'fagot, wood' KS, CDIAL 3340a; 'unexplained' Kuiper 1955: 160 KRzana 'pearl', Urdhva-, kRzanA-vat, EWA I 396 'not securely explained'; Kuiper 1955: 152 compares kR-zana with other words for 'thick, round', such as Skt. lex zAni 'colocynth?'

KhRgala meaning unclear: 'staff, crutch, amulet, armor, brush?', 2.39.4; EWA I 494; cf. khargala 'owl', above, khArgali PB? - - Kuiper 1948: 49f. 'well-known prefix k@r-, kar-, and gala-'

KilbiSa 'evil action'; EWA I 354 'not sufficiently clear', Kuiper 1955: 175 compares TS, VS kalMSa 'spotted' and Epic kalmaSa, Pkt. KamaDha (cf. Pinnow 1959: 379 sqq., kuiper 1991:36 sqq.), Kuiper 1948: 38, 138 on prefixes kal-, kil-, kar-; Sant.boDor, bode, murgu□c '

dirty', with adaptation -S-/D into Ved. Similar to VipAz-/VibAl-/*VipAZ (see below).

Due to the frequent interchange k[k']/z, (see below) the prefix zar-/zal- belongs here as well (cf. kar-koTa-ka RVkh ~ zar-koTa AV):

ZarvarI 'night', api-zarvara; EWA II 621 compares *zarvar. zarman 'protection'; Kuiper 1955:144 u. 1955: 170 compares zambara, karbura, Kuiper 1991: 30 zabala 'variegated' with simple prefix, as compared with prefix + infix ('double prefix') in zambara (cf. Kuiper 1948: 136)

Zalmali name of a tree, 'Salmalia malabarica', EWA II 622 'probably not to be separated from RV 3.53.22 zimbala', CDIAL 12351 (not related Tib.-Burm. *siG 'tree'); Kuiper 1991: 65 on cases with -lm- for -mm-: 'different dissimilations of *zamma/zimmal'.

sRJjya 'name of a person' 6.27.7 (next to turvaza), 4.15.4 (next to daivaant), sArJjaya 'descendent of S.' 6.47.25; EWA II 743 supposes connection with sRJjaya 'a certain bird' KS, which would agree with the totemistic names in Munda; cf. Kuiper 1991: 7, on non-IA tribal names in RV sRbinda name of a demon 8.32.2; EWA II 744 with Kuiper 1991: 40,43 (and earlier) on names such as ku-surubina TS, PB, kusur-binda JB and bairinda VS 'member of the tribe of the Binds' (probably also the name of the Mountain range, post-Vedic vindh-ya), vi-bhindu RV 8.2.41, 1.116.20, vi-bhindu-ka, vi-bhindu-kIya JB \$203; cf. Kuiper 1939 = 1997: 3 sqq., 1955: 182, Witzel 1999).

In the same way, the prefixes jar, tar, nar, par, bar zar, sR= [j@r, t@r, etc.]: jarAyu, jarUtha (cf. also Ved. Jar.tila: tila); taranta, tarukSa, tRkSi, tRtsu, nAr-miNI, epithet of a fort; nAr-mara, probably the area of or the chief of Urjayanti; parNaya, parpharI-ka, parzAna; prakGkata (next to : kGkata), prakala, parpharvI, pramaganda (next to: magdha), pra-skNva, pharva-ra, phAriva; pRthi, pRthI, pR-dAku [p@r-dak-u] <Munda da□k 'water'?, barjaha; (cf. also NA-Sada RV, Nar-vidAla, Nar-kavinda PS and *ku-bind in: Ved.ku-sur (u) binda, bairinda, vi-bhindu, vi-bhindu-kI-ya).

Furthermore, the formations with other vowels that are adaptations of [a@r] as above in [k@r]: tirindi-ra, turIpa, truphari, truva/turvaza, truvIti, tUrNAza, sUrmi.

Instead of C@r, the much more common double prefix of Munda, C@n-, C@m-, is found as well: kaGkata; zamba, zambara (cf. zablal!) zAmbara, ziMzapA, ziMzumAra, ziJjAra, zimbala, zimbAta, zimyu. Compare also the prefixes in C@s-: puSkara, puSya, rAspina, rAspira.

Kuiper (1991: 39 sqq.) also discusses other prefixes, such as A-, I-, u-, o-, ni-, bhR-, ma-, sa-,za-,hi-. Among them, the old prefix u- (o-) would be of special interest; however, is found in the RV only in some 5 or 6 cases.

A clear case is za --kunti (-kA) RV, za-kunta AV, ved. Za-kunta-ka 'bird', za-kuntlA name of a nymph, Ved. Kunti a tribal name, next to the matsya (IA, 'the Fishes'). The Ved. words belong to Kharia kon-the'd, Sōra on-tid@n. etc.; Korku ti-tid'a certain bird', Ved. tit-tir-a 'partridge', Pinnow 1959 160 : 336; cf. however RV za-kuna, za-kuni (Kuiper 1991:44).

\$ 1.3. Para-Munda and the Indus languages of the Panjab

In short, Para-Munda prefixes are thus very common in the RV. One has to agree with Kuiper 1991: 39f: "According to some scholars Munda was never spoken west of Orissa, Bihar, Madhya Pradesh and eastern Maharashtra... The obvious occurrence of Old Munda names in the Rigveda points to the conclusion that this statement should be revised." If (some of) the words quoted above should not go back directly to Proto-Munda, one may think, especially in the case of the untypical formation C@r, of an unknown western Austro-Asiatic language, "Para-Munda" (cf. Kuiper 1962: 51, 102).

If this initial interpretation is correct, several far-reaching conclusions can be drawn. The very frequency itself of non-Drav. loan words in the early (as well as in the later) RV is remarkable: it indicates a much stronger non-Drav. substrate in the Panjab than usually admitted. Because of the great similarity with Austro-Asiatic formations and because of some already established (Para-) Munda etymologies (such as za-kunta ~ kharia kon-the'd, etc., Pinnow 1959 160:336), this substrate is likely to be an early form of western Austro-Asiatic.

Is the Indus language therefore a kind of Proto-Munda? Against this may speak first of all, as Kuiper states (1991), that the RV substrate does not have infixes like Munda. However, -n-infixes can be adduced in ka-bandha/ka-vandha, kar-kandhu, gandhA-ri, pra-maganda, za-kunti < Pmunda *Sa-kontid, sR-binda and, e.g., in post-RV ku-sur (u)-binda, baina, vi-bhindu, vi-bhindu-kl-ya. Yet, the substrate may be a very early form of Munda (or another variety of Austro-Asiatic) which still used prefixes actively, just like the eastern Austro-As. languages, e.g. Mon, Khmer, do even today (cf. also below, on Sumerian). Further, the infixes may be developed from prefixes which had found their way into the root (Pinnow 1959:15). Among these, one can include 'double'

prefixes such as k@-r-, S@-r-, p@-r-etc. (Pinnow 1959:11). If this is correct, then Rgvedic Proto-Munda represents a very old stage of Austro-Asiatic indeed, something that does not surprise for a text of c. 1500 BCE.

§ 1.4. Munda and Para-Munda names

However, direct contact of the non-Indo-Aryan words in the RV with predecessors of present day Munda languages is more complex. Some of the substrate words may, at least in part, have entered the RV through the intervention of the Indus language (IAGgala etc., see below). Yet, there also are a few direct correspondences with reconstructed Proto-Munda (za-kunta <*kon-ti□d) which indicate the archaic character of the para-Mundic Indus language. For example, the name of pramaganda, the chieftain of the kIkaTa (RV 3.53.14) who lived south of kurukSetra (cf. Witzel 1995). Both words are non-Indo-Aryan and they show clear indications of Mundic character: maganda can be explained as ma-gand with the old, now unproductive Munda prefix ma-that indicates possession. The word gand may belong to Munda *gad/gaD, ga-n-d/gaND (Pinnow 1959: 351 \$498) that is also seen in gaNDa-kI, gaga (Witzel 1999, if not modeled after the tribal names aGga, vaGga, see below), W. Nepali gAD (as 'suffix' of river names, Witzel 1993) and apparently also in ma-gadha (with Sanskritization>dh). Kuiper 1991: 43f. (8, 21, 96, also 1955) has explained the prefix pra- [p@r] (cf. prefixes such as k@r-/S@r-) from Munda, which looks perfectly Indo-Aryan but in this case certainly is 'foreign' (p@r 'son of'? Kuiper 1991: 43). The tribe of chief pramaganda, the kIkaTa, has either the typical 'tribal' suffix -Ta (see below) or the old Austro-As. plural prefix ki-, (or may be both). Cf futher the prefix kI-/ki-in: kInAza/kInAra 'plough man', kimIdin, kIkasa, etc., all of which may be compared with the Munda prefix k- for designation of persons (and the plural prefix ki-of khasi; note that in RV, k-also applies to items merely connected with humans and animals).

Further RV substrate names of persons, tribes and rivers include some exactly from the areas where Indus people are to be expected: in their late/post-Indus new settlement area (J.Shafer 1995: 139) in the eastern Panjab, in Haryana (kurukSetra), and especially east of these, well into the Gangetic plains. Even during the middle/late Vedic period, the local rivers of E. Panjab are still designated by non-Indo-Aryan names: the famous bharata chieftain sudAs crosses (RV 3.33) the zutudrI an vipAz and settles on the sarasvatI. They are not explainable from IA:

ZutudrI (Satlej) <*S@-tu-da□? from Munda tu 'float, drift', Kharia thu'da□ <tu -da□ (da□ 'water'), Khasi p@r-tlu 'outflow' ; note the later popular etymology zatadru 'running with a hundred streams'.

vipAz <*vipaZ/*vibal (cf. also VibAII RV 4.30.11-12), and note that the sarasvatI still has a similar name, vaizambhalyA (with many variants, always a sign of foreign origin, in the brAhmaNa texts: TB 2.5.8.6, -bhalyA, -pAlyA, -baLA ApZS 4.14.4, -bhalyA BhAr. zikSA; cf. also RV. vizpalA?), which is to be derived from something like *viSambaZ/ *viSambAL, probably with the prefix zam/k'am- (as in zam-bara, kam-boja) from *(vi)-Sam-bAZ. (note the popular etymology from vi-zambala 'having widespread blankets'). It is likely that during the Indus period, the original name of the famous Rgvedic river sarasvatI was something like *vi (Sam) baL/vi (Sam) baZ. If one insists, indeed, on renaming the Indus (sindhu, Bur, sende) cluture, it should be renamed the Harappan or sende-vibaz culture.

The land of tUrghna (TA), north of this region, has no Indo-Aryan etymology either, and khANDava (TA), with its suspicious cluster -ND- (K. Hoffmann 1941), south of kurukSetra, is inhabited by the kIkaTa under their chieftain pra-maganda. Note also, in the same area (kurukSetra), the appearance of Pinnow's u-suffixes in 'foreign words', e.g. khANDava, kArapacava, naitandhva (Pinnow 1953-4).

The Greater Panjab names of gandhAra, kubhA, krumu, kamboja may be added. – gandhAri RV. gAndhAra Br., O.Pers. ganAra, Herodotos ganda'rioi, EWA I 462, cf. munda *ga(n) d 'river', the river names of the Gangetic plains, gaNDakI and gaga, the gandhina people on its upper course, and Nep.-gAD in river names. GandhAra is formed with the common suffix -Ara, -Ala (Witzel 1993, 1999); -- kubhA, cf. Skt.kubja 'bent', Kuiper 1948: 42f., Sant.kubja which belongs to Munda Dui□j, k@b-Duj etc. (Pinnow 1959: 21, 91: \$108, 249 \$ 286 kharia Dui□j 'bend', Santali k@bDuj 'ugly', D@bDuj□d 'crooked', p. 435c Santali k@bn.j 'bent', etc.) – krumu from Munda *k@-rum 'luke warm'?? cf. Kharia rum 'to burn', Sant. Ur-gum 'luke warm', Mon uj-ruG 'humid, warm'; -- The kamboja (AV. PS) settled in S.E. Afghanistan (Kandahar); cf. O.Pers. kambujIya (or kambujIya ?) 'Cambyses'; however, their name is transmitted as Ambautai by Ptolemy (Geography 6.18.3), without the typical prefix). This change in the first syllable is typical for Munda names (see below aGga: vaGga, kaligGa: teliGga; kulUTa : UIUTa. etc.) – Mundas that far west cannot be excluded a priori (Kuiper 1991: 39).

It may be asked, how far Austro-Asiatic speakers extended westwards during and before the RV period. Until now, the present distribution of the Munda languages has led to rather far-going conclusions, for example by Burrow (1958, cf. Southworth 1979:200). Starting from the modern settlement areas of the Mundas in Eastern India (Bihar, Orissa, W.Bengal) and on the River Tapti (in northwestern Maharastra and Madhya Pradesh) he regarded it as impossible that the Munda could ever have settled in the panjab. Kuiper, however, has been of a different opinion (1955: 140, 1991: 39, see also 1948: 8, cr. Witzel 1980, 1993 on the substrate in Nepal, and 1999 for the Panjab area). The cases discussed above indicate a strong (para) Austro-Asiatic substrate in the Panjab, and there are some hints which points to Munda influence in the Himalayas (Know 1905, witzel 1993, see below) and even in E. Afganistan (zambara, kamboja).

An important result is that the language of the Indus people, at least those in the Panjab, must have been Para-Munda or a western form of Austro-Asiatic. (Even a minimalistic formulation would have to speak of some three hundred words from one or more unknown languages, especially one working with prefixes.)

In view of the recent comparison by the late I.M. Diakonoff of Munda and Sumerian (MT III, 54-62, but note the criticism by Bengtson MT III 72 sq., and cf. still differently, Bomhard, MT III 75 sqq.) this characterization of the pre-IA Panjab acquires special importance (cf.already Pryzyludski 1929: 145-149). To follow up, the role of compound nouns in Sumerian versus old 'prefixes' in Munda would need further investigation. In this regard, it should be noted that Sumerian has implosive consonants, just as Munda, Khasi, khmer, the Himalayan language Kanauri and the Kathmandu Valley substrate, all of which may point to a S./S.E Asian areal feature.

If Diakonoff's proposal were indeed borne out, the Rgvedic Para-Munda substrate in the Panjab of c. 1500 BCE would represent an early link to Sumerian. Notably, Sumerologists, though without any firm reasons going beyond some vague mythological allusion to more eastern territories (Dilmun, etc), think that the Sumerians immigrated from the east, from the Indus area. If indeed so, the speakers of (para-) Austro-Asiatic would have been builders of a number of great civilizations from Mesopotamia to Pakistan/India Burma and Cambodia.

If a relationship with Munda could not be confirmed by obvious etymologies, a minimal position would be to define the c. 300 non-Dravidian loan words as coming from an unknown, prefixing language

of the Greater Panjab, which might be called, for lack of a self – designation, after its prominent geographical features, the *gandhAra-khANDava* or perhaps better, the *kubhA-vipAz*, or simply, using the archaeological term, the Harappan language.

Finally, in reviewing the evidence of the Rgvedic Para-Munda, it should be taken into account that Northern and Southern Munda differ from each other in many respects, the southern version usually being more archaic (Zide 1969: 414 sq., 423), though much less known. This difference as well as the shift of Munda from a prefixing language with mono-syllabic roots to the working, in typical South Asian fashion, with suffixes, may have been influenced or even may have been due to a north Indian substrate such as Masic's "Language X".

§ 1.5. Other Panjab substrates

If the Indus language is a kind of Para-Munda it cannot, however, be excluded that one or more unknown languages are involved (cf. Zide and Zide 1973:15) in the Rgvedic substrate. From the older RV onwards, we find a number of words that cannot be determined as Para-Munda. Examples include the words with geminates (see below) e.g. *pippala* RV 5.54.12 and an undetermined number of the c. 300 'foreign words'. Some of them can be traced as being loan words from more distant eastern (Sustro-As) or western (Near Eastern) languages; the path the loans have taken is clear (see below) in the case of RV *lAGgala* – Indus **langal* < -- PMunda **Jan-kel* < -- Austric (Makassar) *naGkala*; Ved. *vrIhi* < Indus * *vrijhi* < - - PMunda (c. 1500 BCE) **@rig/Tib/Malay (') bras* < -- S.E. As. ***@Ē@rij (?)*; Ved. *mayUra* 'peacock' < -- PMunda *mara* 'crier' < -- Ausr. (Malay) *merak* -- > Sino-Tib. **raka* 'cock'. Note also the various sustrates in Burushaski, Nahali and "Dhimal" (Kiranti languages in E. Nepal) discussed in MT II, III and by Kuiper 1962: 14 sqq., 40, 42, 46f, 50f., Berger 1959: 79; and cf. those of the Kathmandu Valley and Tharu (s.below).

In short, the Panjab is an area of a Pre-Rgvedic, largely Para-Munda substrate that apparently overlays a still older local level which may be identical with Masic's "language X" found in the Gangetic plains (preserved in some Hindi words). In general, the vocabulary of Para-Munda and "language X" words is limited to local flora and fauna, agriculture and artisans, to terms of toilette, clothing and household; dancing and music are particularly prominent, and there are some items of religion and beliefs as well (Kuiper 1955, 1991). Since no traces of the supposedly Dravidian "Trader's Language" of the Indus civilization

(Parpola 1994) are visible in the RV, the people who spoke this language must either have disappeared without a trace (cf. below on MeluHha) or, more likely, the language of the Panjab was Para-Munda already during the Indus period (2600-1900 BCE).

Or, as expressed by Kuiper (1991: 53) in another context: "Burrow and Emeneau understandably and rightly ignore the Pan-Indic aspects, but ... their dictionary [DEDR], by omitting all references to Munda, sometimes inevitably creates a false perspective from a Pan-Indic point of view."

The large number of agricultural words alone (Kuiper 1955) that have no Dravidian explanation indicates that the language of the Indus people cannot have been Dravidian (cf. also Southworth 1988: 663). Their successors, the Indo-Aryans, preferred to tend their cattle and they spoke, like their brethren in spirit, the Maasai, about their sedentary non-Indo-Aryan neighbours in southern KurukSetra in this fashion: "what is the use of cattle among the KikaTa?" (ki'm te kRNvanti KI'kaTeSu gA'vaH, RV 3.53.14).

As we can no longer reckon with Dravidian influence on the early RV (see immediately below), this means that the languages of the pre-Rgvedic Indus civilization, at least in the Panjab, was of (Para-) Austro-Asiatic nature. This means that all proposals for a decipherment of the Indus script must start with the c.300 (Para-) Austro-Asiatic loan words in the RV and by comparing other Munda and Austro-Asiatic words. (For the Indus script see Fairservis 1992: 14, Parpola 1994: 137 sqq., Possehl 1996b). The decipherment has been tried for the past 35 years or so mainly on the basis of Dravidian. Yet, few Indus inscriptions have been "read" even after all these years of concerted, computer-aided attempts, and not yet in a fashion that can be verified independently (cf. a summary of criticism by Zvelebil 1990). Perhaps that is not even attainable, due to the brief nature of the inscriptions (7 signs on average and hardly more than 20). Yet, Kuiper's '300 words' could become the Rosetta stone of the Indus script.

Further, investigations of the South Asiatic linguistic area (Sprachbund) must be reformulated accordingly, for example the question of the retroflex sounds, see Tikkanen 1988, and cf. Zvelebil 1990: 71 on the distinction between true retroflex sounds (domals, 'cerebrals') and cacuminals. In the RV they cannot go back either to Proto-Drav. influence, as usually assumed, because they are already found in the older parts of RV (books 4,5,6) where no Drav. loans are present; they also cannot go back to Proto-Munda influences because

Munda originally had no retroflexes (Pinnow 1959, except for *D*, see Zide 1969: 414, 423). The clear increase of the retroflexes in RV books 1, and especially in 10 is remarkable. In the older RV one can only detect very few cases of not internally conditioned, original and clearly non-IA retroflexes: RV 6: *kevaTa* 'hole'; *reNu-kakATa*; *rANDya*, *zANDa*, (*hiraNya-*) *piNDa* (late hymn), RV 4, 5: *krill-*; RV 2: *zaNDika*, *mArtANDa*, *pipILe?* (*pID*); cf. also *jaTha'ra* in RV 1.2.3.5.6.9.10. None of these old words is Dravidian (see below). In short, the people of the (northern) Indus civilization must have spoken with retroflexes.

Almost the same situation exists with regard to another item of suspected substrate influence, the innovation in Vedic of the grammatical category of absolutes (not found in Old Iranian!, see below). They occur in RV 4 with 1, RV 6 with 1, RV 2 with 4 cases (a relatively high number in this short book!); equally, in RV 3 with only 1, RV 7 with 4, RV 8 (*kANva* section) with 0, RV 8 (*Aggirasa* section) with 2, RV 9 with 4; even RV 1 (*kANva* section) only with 5. – Really innovating are only the late books RV 1 (*AGg.*) with 34, and RV 10 with 60 forms.

§ 1.6. Dravidian in the Middle and Late Rgveda

As has been repeatedly mentioned, there are no traces of Dravidian language in the Panjab until c. 1500 BCE, not even of the supposedly Dravidian speaking traders and rulers of the Indus civilization; however, Drav. loan words suddenly appear in the RV texts of level II (books 3,7) 8.1-66 and 1.51-191) and of level III (books RV 1.1-50, 8.67-103, 10.1-854; 10.85-191). These include personal and tribal names, as well as cultural terms.

For comparisons, we are limited to Burrow-Emeneau's DEDR, and a few lists from old Tamil texts, but scholars usually work directly with Tamil, Kannada, Telugu (etc) comparisons; a reconstruction of Proto-Drav. forms is but rarely given.

To begin with, many words that have been regarded as Drav., are now explained as coming from Munda or another substrate language, for example, *mayUra* 'peacock' whose correspondence in Munda **ma-ra*□ still has an appellative meaning, 'crier'; (PMunda **ra*□k 'to cry', Pinnow 1959: 76-57). However, this is not so for the Drav. designation, where 'peacock feather' is reconstructed at a level earlier than 'peacock' itself. Indeed, many of the 26 words attested in the RV that Burrow (1945, 1946, 1947, 1947-48, 1955, cf. Southworth 1979 sqq.) originally listed as Drav., as well as those added by Southworth (1979) and Zvelebil (1990) cannot be regarded as early Dravidian loans in Vedic.

Even if one would regard all of them, for argument's sake, as Dravidian, only *kulAya* 'nest' 6.15.16, *karambha* 'gruel' 6.56.1, 6.57.2, *ukha*-(*chid*) ' (lame) in the hip' 4.19.9 occur in early Rgvedic. These words can, however, no longer be explained as Dravidian.

Karambha 'gruel' CDIAL 14358, no longer in DEDR. Kuiper 1955: 151 Drav. etymas 'doubtful', EWA 1.310 'unclear', Kuiper 1991: 51 sqq. Compares loan words with *-b-* > *-bb-* (Pkt. *Karamba* 'gruel').

KulAya in 'nest-like' 6.15.16, cf. *kulAyaya* 7.50.1, from Drav. CDIAL 3340, cf. DEDR 1884 Tam. *Kulai*, DEDR 1883 Tel. *GUḍa* 'basket', but the word formation is unclear, further Drav. **-D->Ved. -l-*?, EWA 1.373 'not clear', comparing NPers. *kunAM*, East Baluchi *kudhAm* *kudhAm* < *kudAman*, with the same problems, 'foreign word' Kuiper 1991: 14.

Ukha 'pan, hip' in *ukha-chid* 'breaking the hip, lame' 4.19.9, cf. MS 4, p. 4.9 *ukhA* ' (dual) 'hips': DEDR 564 'particular part of upper leg', *ukkam* 'waist' Tulu *okka* 'hip', for sound change Drav. *k-* > Ved. *kh-*, s. Kuiper 1991: 36, cf. 1995: 243, however, EWA 1.210 compares Latin *auxilla* 'small pot', Latin *aula* 'pot' (Pokorny 881, yet declares 'not sufficiently explained'. As RV 4.19 is not seen as a late hymn, this might be the oldest Drav. loan in Vedic (RV I).

Only cases in the middle and late RV remain. In the early RV (2, 4, 5, 6) possible Drav. words are found only in some additional, late hymns (insertion after the initial collection of the RV, c. 1200 BCE, s. Witzel 1995):

-phala 4.57.6 'fruit' DEDR 4004, Tam. *Pal-u* 'to ripen', *pal-ani* 'ripe fruit', etc., see Zvelebil 1990: 78 with literature, Parpola 1994: 168, CDIAL 9051, 9057; EWA II 201 doubts Drav. origin, and derives it from LA *phal/r* 'to coagulate, condense', but finds 'origin of LA **phal/phar* not explained'; that means, a Middle RV loan from Drav. remains possible, or from Munda: Sant. *PiTri* 'swelling of glands as in mumps', Sora *pEl* 'to swell, grow in bulk (seeds)', Kuiper 1948: 163, compares Kharia *poTki* 'to sprout', *potri* 'pregnant', etc., cf. 1955: 144, 158, 183; Pinnow 1959: 173, § 378.

phAla 'plough share' 4.57.8, Turner, CDIAL 9072, connects *phalati*, Iran. **spAra*, and thinks that it has been influenced later on by Drav./Munda, not in DED (R), EWA compares NPers. *supAr*, Pashto *spAra*, IskaSmi *uspir* < **spa/Arya*?

-paNDa 6.47.23 'ball, dumpling', the many divergent NIA forms speak for a loan word, see CDIAL 8168 and add., Drav., Burrow 1946: 23, Munda, Kuiper 1948: 142, 162, cf. 1991: 14, DEDR 4162 Tam.

PiNTi, Konda piNDi etc. 'flour'? – EWA II 128 'unexplained'; cf. also K. Hoffmann, Diss. 1941: 380 sqq. And perhaps Armenian pind 'compact, firm' < Iran. (<Ved.?)

In middle RV (3, 7, 8):

kuNAru 3.30.8 'lame in the arm?', or name of a person, see EWA I 362 'unclear'; however, compare Drav.: Kan. KuNTa 'cripple', Mal. KuNTan 'cripple', etc., CDIAL 3259-60, DEDR 1688

mayUra 3.45.1 DEDR 4642. 'peacock' PS, mayUrI RV 1.191.14, mayUra-roman RV 3.45.1. mayUra-zepya RV 8.1.25; generally regarded as Drav.: DEDR 4642 Tam. MaJJai, mayil; northern Kasaba dialect of Irula muyiru, Tulu mairu. Konda mrIlU, miril, (*mayil/mayir, see Zvelebil 1990: 77, with discussion an lit.). However, originally from Munda: PMunda *mara- 'crier', Kharia mara-, Santali, Mundari, Ho mara-, Kurku mara, Sora mArAn 'peacock, Pavo cristatus', see Pinnow 1959: 205 §90; cf. also Skt. marUka (lex.) 'peacock, deer, frog, Curcuma Zerumbet', and Khotanese Saka murAsa 'peacock' (EWA II 317, KEWA II 587, CDIAL 9865, add 9865, DEDR 4642, Bagchi 1929: 131, Southworth 1979: 191 sqq., 200, cf. Zvelebil 1990: 77 Hock 1975: 86). The rare tribal name mara- Ta PS 5.2.1, 12.2.1 (Witzel 1999) belongs here; the maraTa probably lived south of the Ganges and north of the Vindhya.

The above may indicate that the Dravida entered into contact with some groups of Munda speakers fairly early (before the Middle RV); however, just as in the Vedic case, one or two intervening languages (s) (*mayil / *mayur) must have delivered the word to Drav. and Vedic, for example the "Language X" or a Northern and Southern Indus languages; in the south, this must have occurred before Sindh was practically deserted in the post-Indus phase (Allchin 1995: 31 sqq.). The Ved. form mayUra may have been influenced by mAyU 'bleating'.

phala 3. 45.4 see above

kANa 7.50.1 'one-eyed' EWA I 336 'unclear'; cf. Avest. kar@na 'deaf': kar@na 'ear' and cf. DEDR 1159 Tam. KaN 'eye'; and DEDR 1443 kAN 'to see' both now without reference to Skt.; Zvelebil 1990: 79 compares DEDR 1159 and finds, 'rather speculative', the Drav. negative suffix -a/-A; cf. Kuiper 1991: 79. - - However, cf. Burushaski zon, zOn 'blind' (see above, with northwestern interchange of Ved. z/k, Witzel 1999); note also that kANa is found as hapax RV 10.155.1 next to 'mountain', a 'foreign' name and an onomatopoeic: giriM gaccha, zirimbitha, budbud- (cf. Santali buDuꣳc bu Duꣳc 'to bubble up').

kulpha 7.50.2 'ankle', CDIAL 4216, from Drav.; cf. DEDR 1829 kuLampu 'hoof'?; EWA I 376 'completely unclear'. Kuiper 1955: 148 loan word because of AV gulpha and points (1991: 35) to variant forms in Ved. (gulpha) and MIA (gopphaka, guppha, goMpha).

daNDa 7.33.6 (late hymn) 'stick', DEDR 3048 Mal. taNTa 'forearm. arm', Tel. daNDa, etc., cf. DEDR 3051, CDIAL 6128; Munda, Kuiper 1948: 76; Sant. DaNta 'thinck stick, club'. Da (N) TiTit 'stem (of mushrooms)', DaNDi 'stick, staff, stalk'. cf. Mundari DANDi 'small stick'; EWA I 691 'not explained'

kuNda-'vessel' 8.17.13 can be compared with Avest. Kunda/-I. kundiZa, the name of demons ('pot-bellied'); Dravid.. DEDR 1669 Tam. KuTTam 'deepness, pond', Tel. KuNTa, kuNDu, Kur. XoNDxA etc., DEDR 2082; Kuiper 1948: 76 Drav., 1991: 14 'foreign'; CDIAL 3265; EWA I 363 points to the difference in meaning between Drav. and Ved. and concludes 'unclear', perhaps loan word.

mayUra 8.1.25, see above

naLa 8.1.33 'reed', naDa/nala/nada. EWA II 7 from IIr. nada (Nuristani n0 <nada, Parth. Nad 'flute', N.Pers.nAy 'flute') < IE *nedo (Hitt. Nata 'reed', Armenian net), however without actual explanation of the variation *d>D; DEDR 3610 compares, strangely, Tam. Nal 'good' with the Skt. name Nala, idem Zvelebil 1990: 82; however; Nala is found in Vedic, ZB 2.3.2.1-2 as NaDaNaiSidha, and in Mbh. As Nala NaiSadha, the king of the (probable) Munda tribe of the Nisidha/NiSadha = Ved. NiSAda (MS, VS. see bleow); cf. Kuiper 1991: 33 on D/d, and p. 19 nALI 10.135.7 'flute, pipe' (cf. 1948: 82).

kANuka 8.77.4; (poet: kurusuti kANva) next to saras 'pond'; unclear in meaning and etym., EWA I 336; Kuiper 1991 as foreign.

In late RV (1,10)

ulUkhala 1.28 'mortar' DEDR 672 Tam. Ulakkai, Kan. Olake, KoDagu oLake, and Kota oLka, oLkal kal ' (stone) mortar'. Malto loRa 'stone to grind spices' (S. Palaniappan, by letter); EWA I 231 'problematic'; cf./Zvelebil 1990: 79 with lit.. Kuiper 1991: 14, 41 'still unexplained', compares loan words with prefix u-; any connection with khala 'threshing floor' RV etymology. Pokorny 1959: 1065, 1069 derives them from IE ten 'to stretch', in other IE languages the meaning mostly is 'thin'; EWA II 622 connects tan-U '*Ausdehnung, ausgespannte Hu 'lle' with tan.

The comparison of the IIr. and Drav. words would presuppose a very close relationship between Drav. and (pre-) Indo-Ar. tribes indeed, as pronouns are not taken over easily. Such early Drav.-IA relationships

are not found otherwise: there are no early loans in designations of material culture, e.g. pastoralist terms in Vedic/Drav.: horse: azva: ivulji. kutira, cow: gau- : A(N)2, sheep: avi: (y) Atu, koR2i, goat : aja : (y)Atu, koR2i, dog : zvan : nAy, nAi. This would rather point against a neighborly relationship of both languages in any pre-South Asian context.

garda-bha 'donkey' RV, late, only 1.23.5, in the appendix hymn 3.53.23 next to rAsa-bha 'donkey'!, RV vAlakhilya 8.56.3 :: Tam. kal~utai, Gondi gARdi, etc., to which DEDR 1364 compares Skt. Gardabha; CDIAL 4054; EWA I 473 cf. gard 'to cry shout' not from Drav.

pizAca, pizAcI AV, pizAci- 'demon' RV, late: 1.133.5 :: Tam. pEy- 'devil, goblin, madness' DEDR 4468, without comparison with Skt., and without suffixing -zAci-, only: pEytti, pEycci, pEcci 'demoness'.

zava (not in RV, ditt. Southworth 1979: 197), only PS+ : Tam. cA- 'to die' (kural), Ko. Ca-v- 'corpse' DEDR 2426 compares Skt. Zava; EWA II derives zava from zav 'to swell' AVP; CDIAL 12356 not from Drav. as the word is early in Drav., perhaps accidental look-alike.

paThati 'to recite' RVKh., TA, Up. : Tam. pATu 'sing, chant', pATTu 'song', attested already in PerunkuN2R2Ur KilAR2, DEDR 44065 without reference to IA; EWA II 69; CDIAL 7712 < *pRthati; Drav. <-- Indo-Ar., Burrow-Emeneau 1962: 46, no. 242. Rather to be derived from MIA pupil's slang Ved. Prath 'to spread out (a text, in recitation)'?; compare the frequent loan words in the context of Vedic teaching and learning : maNDala, kaNDa, kANDa, prapATHaka, paTala, daNDa, MIA: orimika 'a section of KS' etc.

nagara 'town' TA, but cf. already nagar-in JB :: Tam. nakar 'house abode, town, city'; cf. EWA II 5, CDIAL 6924; DEDR 3568 IA --> Tam. nakar 'house, town, etc.' But why nakar from Skt.? There is no IA etymon, nor is there one in Drav. and Munda. Drav. for settlements: DEDR 3568 nakar 'house, town', 1655 kuTi 'home', 3868 paTTi 'cow stall, village', 5393 viTu(ti) 'temporal residence', 2007 cEri 'street, village', 752 Ur 'village', 4362 pUNti 'town, village', 4047 pAkkam 'seaside village', 4646 maTappam 'agricultural town', 807 eyil 'fortress'; 4064 pATi 'town', 4112 pAl~I 'temple, town', 4555 Kan. pol~ al 'town', 5549 vai, 3911 pati, 2814 cEr; 3638 nATu 'open country' (opp. nakaram); --cf. also Skt. haTTa 'market' ~ Santali, Mundari, Ho hatu, Korwa watu < PMunda *watu Pinnow 1959: 79 § 69. – In short, the word may be a loan from the southern Indus language or one from the Malwa area.

Thus, the words added by Southworth are post-Rgvedic (zava paThati, nagara), or they are attested in relatively late RV sections (gardabha, pizAci), or they are of dubious nature (car, mAyA, tanU). Therefore, it is not possible to suppose, with Southworth, an early close contact, even in Iran, and at all levels of society, of Dravidas and Indo-Aryans. Rather, one has to agree with Kuiper, who stresses the very hesitant acceptance of non-Indo-Aryan words and forms in the high level, poetic language of the RV. The words collected by Southworth in his second list (not discussed here) can have been taken over into Drav. at any time after the RV, e.g. accu 'axle' < akSa RV.

Furthermore, most of the c.800 words in the list provided by DEDR, p. 759-764 are attested only in the Epics or in class. Skt. of the c.61 words listed in the appendix of DEDR which are supposed to come from Indo-Aryan, only a few can be registered as (possible) early loans; they all should be checked in early Tamil before something that even approaches a final decision can be made.

Finally, among the words in Zvelebil's recent list (1990: 77-82) of 22 "early" Drav. loans into Skt., most have already been discussed above; yet, none of them nor the ones newly mentioned are Rgvedic: 8. bilva 'Aegle marmelos, _Bel tree' AV, 10. kuNapa 'corpse' AV, 11. kurkura 'dog' AV, 12. arka 'Calatropis gigantea', ZB, 12a. candana 'sandal wood, paste' Nirukta, 13. kavaca 'armor' PS, ZB, kavacin AV, 13a. jaTA 'matted hair' GS, 13b.

10.48.7 ?

vriz 1.144.5 'finger', DEDR 5409 Tam. Viral, Go wirinj, now without reference to Skt. vrizl; EWA II 597 from IA * vrez 'to bend', Avest. UruuvaEs

'to bend, curve'

bila 1.11.5, 1.32.11 'hole, cave, CDIAL 9245 'Dravid.'; DED 4459= DEDR

5432 now without reference to Skt., cf. also DEDR 4194; Kuiper 1991: 14 'foreign', EWA II 225 'not clear'

a-phalA 10.71.5 'without fruit', see above;

phal-in I 10.97.15 'having fruits', see above;

mayUra 1.191.14, see above

piNDa 1.162.19, see above

kuTa 10.102.4 'hammer' DEDR 1651, 1655, 1883, app. 29; previously explained by Burrow as Draw., later explained by him as IE (German hauen),

but see EWA I 384 'unclear'

- # phAla 10.177.7 'plough share', see above
- # phala 10.146.5 'fruit', see above
- # kANa 10.155.1, see above
- # kaTu (ka) 10.85.34 'pungent'; CDIAL compares khaTTa 'pungent'; EWA I 290

Lithuanina kartu's 'bitter'? or DEDR 1135 Tam. KaTu' to pain; pungent; cruel, harsh, bitterness', Kurukh xaRxa 'bitter', Malto qaRqe 'bitter Brahui xarEn 'bitter etc.

Finally, bala RV 1,3,5,6,7,9,10 'strength, force'; EWA compare Latin de-bilis etc., IE *belo-, which is otherwise not found in IIr. (perhaps in Osset./Sarmatian); see, however, Kuiper 1990: 90 on the rare IE

(initial) b-, and on the impossibility of an IE etymology; cf. CDIAL 9161;

now, against Drav. Origin Burrow, see EWA II 215; cf., nevertheless, DEDR

5276 Tam. Val 'strong', kurukh balE 'with the help of', Brahui balun 'big'.

The same is the case with some words that have later on been added and discussed (Sanskrit Index of the DEDR, p. 559-763) and elsewhere. Most of them are too late in attestation to be of interest here.

In DEDR we find:

Early RV: phalgu 'minute weak' 4.5.14, kalaza 'vessel' 4.27.5, 6.69.2, 3.32.15, 7.69.6; and later: taDit 'flash' 2.23.9 (late addition), 1.94.7 phAla 'plough share' 4.57.8 (late); -- middle RV: ukhA 3.53 'pan, hip' (late addition), kavaSa 'straddle legged', a personal name 7. 18.12, kUla 'slope, bank' 8.47.11. -- late RV: ukhA 'pan, hip' 1.162.13,15; khala

'threshing floor' 10.48.7. of these, only phalgu 'minute weak' (RV 4) remains as a possible early loan into IA, if it indeed belongs to DEDR 4562, Tam. Pollu 'empty husk of grain'. Again, all other words regarded as Dravidian appear only in the middle and especially in the later RV.

Southworth (1990, 1995) adds the following examples of early contact between Drav. And Indo-AR., however, without ordering the texts historically.

car-, carati RV: Tamil cel 'to go, flow, pass, be suitable' (already PerunkuN2Ur KilAR2, c. 160-200 CE (zvelebil); DEDR 2781 "probably from IA", CDIAL 4715; the word is IA, derived without problems from IE *kwel (h);

perhaps accidental agreement with Drav.cel.

mAyA 'confusion, wonderment, awe' RV (found in all of RV, just as mAy-in, mayA-vat, mayA-vin). = Avest. mAiiA 'awful power': Tam. maya- 'mistake, misunderstand': mayakku- 'bewilder, confuse, intoxicate, alcohol, etc. ;

DEDR 4706 without comparison with Skt.; the Skt. and Drav. Meanings do not agree; also because that attested early in the RV and Iran.,

Drav.

Origin (only Middle-RV Drav. Influence!) is unlikely - - unless it would have taken place in Iran (Southworth 1079: 196f.: "high degree of contact at the earliest period for which we have records and possibly before");

however, see below, on tanU.

Southworth 1979: 203, 228 f., 1990: 222-3, 1995 reconstructs as further indication of early contact between Drav. and Indo-Ar. in Iran, a Word *tanu 'itself', Tamil tAN2/taN2 'oneself', tanU RV 'body, Self/oneself'.

For this meaning see now J.R.Gardner, PhD diss., U. of Iowa 1998. The variation in vowel length in the Drav. pronoun (Tam. tAN2/taN2 'oneself') is old (Krishnamurti 1968). However, next to the RV instances, there is Avest. TanU 'body, self', O.Pers.tanU 'body', all have no clear IE etymology. Pokorny 1959: 1065, 1069 derives them from IE *ten 'to stretch', in other IE languages the meaning mostly is 'thin'; EWA II 622 connects tan-U *Ausdehnung, ausgespannte Hu'lle' with tan.

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Futhermore, most of the c. 800 words in the list provide by DEDR, p. 759-764 are attested only in the Epics or in class. Skt. Of the c. 61 words listed in the appendix of DEDR which are supposed to come from Indo-Aryan, only a few can be regarded as (possible) early loans; they all should be checked in early Tamil before something that even approaches a final decision can be made.

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Nirukta,

13 kavaca 'armor' PS, ZB, kavacin AV, 13a. jaTA 'matted hair' GS, 13b. mAIA 'flower necklace', GS, mAlya RVKh, 13c. eDA 'sheep' KZS, eDaka JB, aiDaka ZB. The rest of the words are only post-Vedic.

Zvelebil's summary is: "as Emeneau (1971) writes, 'We end, then with a small, but precious handful of Vedic forms for which Dr. etymologies are certain and acceptable as may be expected in this field of areal linguistics, adding, though that no chronology of the borrowings is possible'" (Zvelebil 1990: 81; similarly Parpola 1994: 168) According to what has been said above, this has to be modified drastically : Rgvedic loans from Drav. are visible, but they also are now datable only to middle and late Rgvedic (in the Greater Panjab), and they can both be localized and dated for the Post-Rgvedic texts (Witzel 1987, 1989).

Of all the words mentioned so far that have been regarded as Drav., only the following few are possible for the early RV:

ukha [-chid] 'hip [-breaking]' 4.19.9; phalgu 'minute weak' 4.514, ANi 'lynch pin' 5.43.8, (whose ultimate source is unclear, and, very tentatively, bala 'force' 5.57.6, 5.30.9, probably from IE, cf. Latin *de-billis*).

Whether this is enough to ensure the presence of (even a small number of) speakers of Dravidian in the Panjab during early RV times may remain in the balance. From the middle RV come: kvaSa 'straddle legged', (a personal name) 7.18.12, kUla 'slope, bank' 8.47.11 and perhaps also kuNDa 'vessel' 8.17.13

Consequently, if more of the middle and late RV words mentioned above are accepted as Drav. and even if some of the words excluded above for the early RV should be accepted, this would not change the

general picture: There is very little Dravidian, but there are about 300 words of the Indus substrat. For it cannot be said, conversely, that there were, during the older and middle RV, clear indications (or: “a precious handful”, zvelebil, Emeneau) of a strong Drav. substrate in the Panjab. At best, one can speak of a few very isolated cases which have been taken over into the RV; clearly this indicates an adstrate rather than a substrate. This result is important for the time of the immigration of speakers of Dravidian into the Panjab and it specifically underlines that the Indo-Aryans did not at once get into contact with speakers of Drav. but only much later, when the tribes speaking IA were already living in the Panjab and on the sarasvatI yamunA. Apparently, Dravidian speakers began influencing the Panjab only at this moment in time (cf. Allchin 1995: 31 sqq., see above). Consequently, all linguistic and cultural deliberations based on the early presence of the Drav. In the area of speakers of IA, are void or they have to be reinvestigated.

It cannot be argued that the immigration of the Dravidians into the Panjab should have taken place earlier than discussed above, for the simple reason that Drav. words do not exist in that early period; the same is the case if only the upper class such as traders (cf. vaNij ‘trader?’ RV 1.112.11, 5.45.6, AV, (pra-) vANa ‘trade?’ 4.24.9, see Kuiper 1955: 168) and administrators of the Indus civilization were composed of Dravidian speakers (Parapola 1994, Fairservis in: Southworth, 1979: 208, 228; contra, Hock 1975: 87f., cf. Southworth 1992: 663), and that in consequence, the Indus inscriptions should be read as Dravidian. In this case, one would expect, after some 400-700 years of the flourishing of the Indus civilization, cases of bilingualism. Consequently, much more Drav. influence should have been retained than visible in the few (late) words found in the c.380 ‘foreign’ words. One would expect at least a few important loan words from the fields of trade, handicraft or state organization (at least, from the post – Indus, village level type cultures). This, again, is not the case. PaNi ‘(rich) foreigner, demon’ cannot be connected with ‘trader’ inside the RV, and paN ‘to barter’ appears first only in (post-Rgvedic) KS, pra-paNa ‘trade’ AV, prati-pNa ‘exchange’ (see EWA II 69; DEDR 3884 does not help: paN ‘work, service’, paNikkaN2 ‘carpenter’; cf. Kuiper 1955: 168, on VANa, vaNij.) In addition, there are not many designations of RV artisans, except for IA takSan ‘carpenter’, etc. (see below). Even if Drav. had been the traders’ language, one would be at a loss to answer the question why Drav.

influence is only seen in the middle and late RV as well as later one (AV+).

Summing up, early Dravidian influence in the Panjab can be excluded, but must be explained for the following middle and later RV periods. This is best done by the scenario mentioned above: middle and later RV immigration of Drav. speakers from Sindh. Incidentally, it must be noted that in all of the RV, there are no typical Drav. words for agriculture which should be expected if the Indus people of the Panjab had been speakers of Dravidian. This agrees with the reconstruction of Fairservis (1995), Southworth (1979), 1988, 1990: 663, and McAlpin (1979) of early Dravidian: and originally pastoral society that acquired agriculture only in South Asia. All of this indicates that we have to take a closer look at the regions bordering the Panjab in the South, especially Sindh.

\$ 1.7. Greater Sindh

In contrast to the clear picture of the Panjab in Rgvedic times, the situation in Greater Sindh is much more vague and the following results must remain tentative. The RV does not mention this area as such, yet there are some indications that Sindh and neighbouring Baluchistan were known. First of all, the bhalAnas tribe took part in the Ten Kings' Battle (RV 7.18) that settled the suzerainty of the Bharata chieftain over the Panjab tribes. The bhalAnas are identified with the bolAn pass and river near Quetta in Baluchistan. Unfortunately, southern local rivers are not mentioned anywhere in the RV south of the gomatl (Gomal River).

However, data from RV book 8 may supplement our scanty information. Book 8 has long been connected with Eastern Iran: K. Hoffmann (1940=1975: 1 sqq.) has pointed to Iranian looking names such as kazu ~ Avest.kasu- (EWA I 330), kazu caidya 8.5.37, kanIta ~ Scythian kanitEs, cf. further tirindira 8.6.46 ~ tiridatEs ~ Avest. IirO.nakathĒa, kRza 8.59.3~ k@r@sAspa, parzu 8.6.46 ~ O. pers. pArsa 'persian', paktha RV 8.22.10 (mod. Pashto, Paktho), varo suSAman 8.60.18 (with unusual Sandhi), arzasAna 8.12.9, 2.20.6, etc., anarzani 8.32.2~ Iran. @rSan-? All such names, if Iranian, belong to pre-Iranian tribes that spoke a dialect close to the one that later developed to E. Iranian (cf. the similar case of the Mitanni-Aryans below). Book 8 also knows of camels (uSTra 8.4.21-24, 31 46-48, O. Iran. USta, as in zarath-uStra), that are first attested archaeologically in S. Asia in the bolAn area, at Pirak, c.1700 BCE.

Now, apart from RV 3 and 7, Drav. words occur first in the Middle RV book 8, more specifically in its kANva section (RV 8.1.48, and 8.49-59, 60-66); they include kuNDa-8.17.13, mayUra 8.1.25, naDa/naLa 8.1.33 (see above); note also the many words in RV 8 with retroflexes (Kuiper 1991: 17, Hoffmann 1941, 1975:16, Kuiper 1967: 84 n. 18, 86 n. 26).

If one locates at least the kANva sections of book 8 in East Iranian lands, that is in (S.W.) Afghanistan and Baluchistan, one can also adduce the very name of this clan of poets. K. Hoffmann (and I) have connected the name with kR 'to act magically, to do sorcery' (Hoffmann 1975: 1sq., Witzel 1983-5). Kuiper (1991: 80) has correctly objected there also is pra-skaNva, with the common Indus prefix pra- *- [p@r-] (contra, with insufficient reasons, Oberlies 1994: 341). This may mean that the Indus language extended to Eastern Iran, especially to the area west of Sindh, to Baluchistan, and to Makran with its many Indus settlements. Book 8 would then represent an amalgam of Dravidian and Para-Munda influences (including some pre-Iranian?)

Dravidian influence in Middle Rgvedic (the time of king sudAs) can be traced back, with some probability, to the areas from Arachosia to Sindh as well. It is here that Drav. place names are assumed to appear first (cf. L.V.Ramaswamy Iyer 1929-30). These names (showing MIA development $p > v$) extend from Sindh via Gujarat and Maharastra to the South: Sindhi – vali, Gujarati –wArI/warI (Sankalia 1949), Mar. – oli, all from a Drav. word for 'village' (Tam. paLLi 'hamlet', Kan. PaLLi, haLLi, Tel. Palli 'village', Kur. PaII DEDR 4018, CDIAL 7972, see Parpola 1984, 1994: 170 sqq., 1997; Southworth 1995: 271, see further, below; - - Panjabi-wALA, wAI rather looks like the common Hindi etc. suffix, as in jAne-wAlA, petrol pump-walla, etc.).

Similar view has been proposed, on the basis of linguistic and archaeological observations, by Zvelebil (1972, 1990: 48, 123), Southworth and McAlpin³, and Fairservis (1992: 17, 21). It has to be underlined, however, that McAlpin's reconstruction of an Elamo-Dravidian language family has not been accepted by Dravidologists.

³ McAlpin 1981 is based on the lexico-statistic calculation of P. Gardner 1980; he distinguishes:

Proto-Drav.: South Drav/Central Drav.-Brahui 4100-3000 BC

PDr-1: SDr/CDr – Kurukh-Malto 2800-1900 BC

PDr-2: SDr – CDr (Kolami, Naiki, Parji) 1500-1100 BC

PDr-3: SDr I – SDr II (Tamil, Telugu) 1000-900 BC.

Fairservis and Zvelebil think of an immigration by Drav. speaking tribes at c. 4000/3500 BCE, from the mountainous lands of East Iran into the Indus valley. Both underline data that characterize the Dravida as originally pastoral hill tribes.

In sum, we may reckon with early Drav. pastoralists (Fairservis 1992, 1997) in Baluchistan and later on, after a period of acculturation with the Indus people, we may encounter Drav. farmers (southworth 1979), 1990, 1995) who practiced intensive rice (Kenoyer 1998: 178, Jarrige 1985) and millet cultivation in Sindh.

\$ 1.8. The languages of Sindh

In addition to these western (Dravidian, pre-Iranian) elements there also are local 'sindh' ones. First of all, it is precisely in this area that rice was first introduced into the Indus civilization. It occurs first as odana 'rice gruel' in the (partly E. Iranian) kaNva book (RV 8) in the emuSa myth, which clearly smacks of 'foreign' origin: RV 8.69.14, 8.77.6-11, 8.77.10, (cf. also 8.96.2, 1.61.7; summary and discussion by Kuiper 1991: 16 sqq.) He had explained it earlier on (1950) as Austro-Asiatic, but is more cautious now (Kuiper 1991: 18f., cf. below). On closer observation, we can notice a mixture of an IA, Austro-Asiatic and possibly Drav. myth.

Kuiper (1991) now shows that the kaNva, non-IA local sorcerers, introduced this myth into the RV. At any rate, the motif is unusual for the RV. Its hero is a divine bow shooter (probably seen on an Indus copper plate, only at Mohenjo Daro, in Sindh, Parpola 1997: 39; cf. also Avesta, Yt. 86.37 @r@xSa, kRzAnu RV 4.27.3. Rudra, and murukan in S. India; for 'bow' see KS dAlbhUSI, MS drumbhUII; with Pdrav-R-> [1~]/[.Z.], Kuiper 1991: 26). This bow shooter splits a mountain, finds the odana rice gruel and kills the boar emuSa. The myth is an imitation of the well known Rgvedic Vala myth (splitting the mountain cave containing the cows/dawns), but is otherwise completely alien to the RV.

Now, the suffix -uSa (Kuiper 1991) of emuSa clearly indicates a name taken from the (Para – Munda) Indus language. This points to a late myth (because a latecomer, rice, is important), adopted from the local southern or southwestern Indus region and from beyond⁴. Second,

⁴ It has to be observed that the boar does not play a role in the Indus civilization: "apparently not domesticated, not used in Indus economy" Kenoyer 1998: 165; this rather seems to be an eastern phenomenon (thus Munda?): cf. below Munda and Sino-Tib. 'pig' and cf. the ancient boar cult on the Nicobar Islands.

the word for 'rice' occur in a Sindh and a Panjab variety (see below). The Sindh version, closer to Dravidian, has been transmitted further west, along the southern trading route to Fars and has entered western languages from there (Greek *oryza*).

Whether rice was otherwise known to the Rgveda is doubtful. Rice was introduced towards the end of the Indus civilization in its southern areas, in Sindh (Kenoyer 1998: 178, in Pirak, along with newly introduced sorghum and millet, and also horse, donkey, camel). In this case, we have again to reckon with a (west-) Munda word: *odana* is connected with *oDi* (kA) 'wild rice' (lex., CDIAL 2546) and Santali *hoRo*, *huRu* 'rice plant' (EWA I 280) and explained as Munda loan (Berger 1963: 420, Kuiper 1950: 179; but cf. Zide and Zide 1973: 8-9 on Mundari kode, Kharia kuda 'millet, ragi') Together with the introduction of rice its charter myth (Malinowski) may have been taken over as well. As has been mentioned, the Dravidians originally had neither a word for 'rice' nor for the staple food of the Indus civilization, wheat.

In sum, it can be said that we may have to reckon with a combination of several factors in the southern Indus area: with (para-)Munda Indus language, with some more eastern Munda influences, with immigration from E.Iran in the person of VasiSTha (RV 7) and of the (pre-) Old Iranian tribes into Baluchistan and the neighboring Kachi plain of the Indus valley (e.g. at Pirak, 1700 BCE), and with Dravidian immigration.

As mentioned above, Zvelebil (1970, 1990) is of the opinion that the Dravida entered South Asia from the Iranian highlands. Their oldest vocabulary (Southworth & McAlpin) is that of a semi-nomadic, pastoral group, not of an agricultural community. They are thus not expected to have their own word for 'wheat'. Wheat, however, was the staple of the Indus civilization, and was called in Dravidian by an adaptation of a local word: **gO-di* 'low red plant' (Southworth 1988, 1979, 1990) which is quite different from the Panjab word **go-dum* > Vedic *godhUma* 'cow smoke' (details below). If the Dravidians acquired agriculture only in the hills bordering S.Asia, they may very well have been inhabitants of Baluchistan at the time. At any rate, neighboring Sindh, just as Gujarat and Maharashtra, show place names that are explainable from Dravidian **paLLi* (see above). Then, according to archaeology, a large section of the population of Sindh left this area towards the end of the Indus period. They moved further east, to Gujarat, where we find a late, local phase of the Indus civilization (Rangpur phase II b, II c, see Allchin 1995: 32 sqq., Kenoyer 1998: 173 sqq.), and, again, Drav. place names.

It is indeed possible that the Dravida constituted a first wave of central Asian tribes that came to Mesopotamia before the Mitanni-IA. In that case they knew the horse already in Central Asia, but would not have taken it over directly from the Indo-Iranians (as maybe indicated by Brahui (h) ullI, O.Tam. ivuLi 'horse', etc., different from Ilr. Ac'va). In other respects as well, they have not been influenced by the Indo-Iranians.

One can even assume that the early testimony of the introduction of horse and camel from the Iranian plateau into Sindh (Pirak and Kachi plain in western Sindh) is due to the Dravida (c. 1700 BCE. Kenoyer 1998: 178; Allchin 1995: 31). In that case, it must be investigated why they apparently did not preserve a word for 'camel'. In this fashion, that is through the mediation of the Dravida in Sindh, Drav. *variJci 'rice' must have reached Iran (> M.pers. brinj), that is not, as otherwise common, via the northwestern Khaiber Pass, as in this region another form of the word is found, with *vrijhi > Pashto wrizE, etc. (see below).

This may mean, on the one hand, that the Dravida themselves were immigrating at the time of the older RV, or that they only influenced the Panjab in the later, Middle Rgvedic period, coming from Sindh. This is perhaps supported by archaeological facts, for Sindh was practically deserted by its population in the post-Indus phase (Allchin 1995: 31 sqq.) It is from this Southern basis that they suddenly appear in mid-level RV, with names such as kavaSa 'straddle legged' (k.aiIUSa RV), cf. zaiIUSa 'dancer, singer' VS (EWA II 655, Kuiper 1991: 20, 25, 42) which Kuiper 1991: 24 explains with reference to Dravidian: initial c- is often dropped in south (!) Dravidian; further examples in RV are: zirimbiTha: irimbiThi EWA II 639, cf. also ziriNA 'hiding place, night?': iriNA 'salt pan, hiding place (for gambling)' (Witzel 1999),

aiIUSa is important, as it was this poet who was an important priest on the side of the opponents of the Bharata. (These opponents include the bhalAnas). His great-grandson tura kAvaSeya, however, is an important priest of the Kuru realm that succeeded the Bharata 'kingdom'; he developed the agnicayana ritual (Th. Proferes, Harvard Ph.D.thesis 1999). This case shows the inclusion of a Dravidian into the fold, and underlines the important role a new 'convert' to Arya religion could play in its very development (that of the post-RV, classical zrauta ritual, see Proferes). Further, he was not classified as zUdra but obviously as a Brahmin who had learned to compose RV hymns in the traditional poetic IA language! All of this is indicative of a high degree of amalgamation and language acquisition at this time, during the middle and late Rgveda period (see below).

§ 1.9. The Southern Indus language: Meluhhan

However, there are indications that another language was prevalent in Sindh before the immigration of the Dravida. The trade of the Indus civilization with Sumeria and later Mesopotamia has left us a number of words that are not Dravidian. It is perhaps best to call this language "Meluhhan" after the name the Sumerians gave to the county, meluHHa. Its language was also sufficiently different from Elamite or Sumerian to require a 'translator from meluHHa' (Possehl 1996a: no.2), whose name is iu-iliSu (Parpola 1994:132). In fact, "the language of MarhaSi [Bampur area, just west of Iranian Baluchistan] is different from that of the simaSkian [Tepe Yahya in southern Central Iran], and only very partially Elamite-related." (Vallat 1985: 52). This indicates that there was a language boundary, somewhere to the west of the present Iran-Pakistan border, probably in a southwards prolongation of the Iran-Afghanistan border. Possehl identifies the area of meluHHa (1996, 1997) as having a center in the hills and mountains of Baluchistan, closer to the population center of the early Indus civilization, which allows for a hypothetical identification of the marhaSi language with that of meluHHa and makes a thorough investigation of the data of RV 8 (see § 1.7.) even more important. There are men with meluHHa as a personal name, thus apparently 'the meluHHan'; several persons, among them urkal and ur-dlama, are called 'the son of meluHHa'. There also is a 'village of meluHHa include giS-ab-me-lu-Hha (abba wood, a thorn tree), mesu wood ('of the plains'), ships of meluHHan style (magilum boat), (Possehl 1996a). In total, there are some 40 "Indian" words transmitted to ancient Mesopotamia, some of which may have been coined by Dilmun (Bahrain) traders. They include: Sindh wood sinda (si-in-da-a, si-in-du), date palm, the 'red dog of MeluHHa', zaza cattle (zebu?), elephants, etc. (cf. Landsberger, *Die Welt des Orients* 3. 261, Possehl 1996a). As coming from Dilmun (Bahrain) we may add the Meluhhan(?) trees giSgiSimmar wood (cf. above *zimmel in zimbala, zalmali 'Salmalia malabarica!'). A slightly later (?) loan-word relationship is seen in summer. Ili 'sesame', Akkad. Ellu/Ulu 'sesam oil', which is only found in south Drav. with eL, eLLu 'Sesamum indicum' (D. Bedigian 1985); the word can be compared, however, with Ved. tila and jar-tila 'sesame' which shows the typical para-Munda prefix C_lr- (cf. Kuiper 1955: 157 for a Munda origin). The ultimate source, *(t)il, however is unclear, cf. further, on Sumer. Loan words, Blazek and Boisson 1992.

The word meluHHa is of special interest. It occurs as a verb in a different from (mlecha-) in Vedic only in ZB 3.2.1, an eastern text of N. Bihar where it indicates 'to speak in barbarian fashion'. But it has a form closer to meluHHa in Middle Indian (MLA): Pali, the church language of S. Buddhism which originated as a western N. Indian dialect (roughly, between Mathura, Gujarat and the Vindhya) has milakkha, milakkhu. Other forms, closer to ZB mlecha are found in MIA *mliccha > Sindhi milis, Panjabi milech, malech, Kashmiri bri.c.hun 'weep, lament' (< mrech-, with the common r/l interchange of IA), W Pahari mel+.c.h. 'dirty'. It seems that, just as in other cases mentioned above, the original local form *m (e) luH (i.e. m(e) lukh in iA pronunciation, cf. E. Iranian bAxdhI 'Bactria' > AV *bahli-ka, balhi-ka was preserved only in the South (Gujarat? > Pali), while the North (Panjab, Kashmir, even ZB and Bengal) has *mlecch. The sound shift from -HH/-kh-> -cch- is unexplained; it may have been modeled on similar correspondences in MIA (Skt. akSi 'eye' ~ MIA akkhi, acchi; kSetra 'field' ~ MIA khetta, chetta, etc.)

The meaning of 'Mleccha must have evolved from 'self - designation' > 'name of forefingers', cf. those of the Franks > Arab farinjI 'foreigner.' Its introduction into Vedic must have begun in meluHHa, in Baluchistan-Sindh, and have been transmitted for a long time in a non-literary level of IA as a nickname, before surfacing in E. North India in Middle/Late Vedic as mlecha⁵.

Further examples of the Southern Indus (Sindh) language include the designations for plough, rice, wheat, and millet.

PLOUGH

The old agricultural word IAGgala 'plow' (RV, 4.57.4, a late hymn) is found, in a divergent form, in Tam. JAJcil, Kan.nEgal, Gadba nAngal (DEDR 2907). Southworth (1988; 1979: 200, 205; 1995: 268,

⁵ Pali MilAca is influenced by a 'tribal' name, piZAca, as is Sindhi milindu, milidu by pulinda; the word has been further 'abbreviated' by avoiding the difficult cluster ml-: Prakrit mecha, miccha, Kashmiri mli~c (h), Bengali mech (a Tib.-Burm tribe) and perhaps Pashai mec@ if not <*mEcca 'defective' (Turner, CDIAL 10389. - Parpola 1994: 174 has attempted a Dravidian explanation. He understands meluHHa (var. meluHHa) as Drav.*mElakam (mElaxam) 'high country' (=Baluchistan) (=ta-milakam) and points to Neo-Assyr. BaluHHu 'galbanum', sinda 'wood from sindh'. He traces mlech, milakkha back to *mlekS, which is seen as agreeing, with central Drav. metathesis with *mIExa=mElaxa-m. Kuiper 1991:24 indicates not infrequent elision of (Dravid.) -a- when taken over into Skt.—Shafer 1954 has a Tib-Burm. Etymology *mltSe: Southworth 1990: 223 reconstructs PDrav. 2 * mu.z.i/mi.z.i 'say, speak, utter', DEDR 4989, tamil. 'Tamil < 'own speech'.

cf. Kuiper 1948: 127, 1955: 156, Przyludski BSL 24, 118 sqq., cf. Parpola 1994: 168) assumes a popular etymology PDrav. *Jan-kāl, *Jan-kel 'earth stone' and traces the term back an Austro-Asiatic source, Munda *Ja-kel, Jan-kel (Zide & Zide 1973: 5), Santali nahel. Khasi lynkor [l@nkor] < *le~nkol, Khmer aGkal; cf. also the Austronesian forms, Malay tengala. Makassar naGkala (Bagchi 1929, 9).V. BlaZek and C.Boisson, (1992: 17-19) think of a Sumerian, and ultimately perhaps even Afro-Asiatic origin of this widespread word of culture: Sumer. ni'G-Gala or ni'G-Gol 'sickle' (!) and Afro-As. *nigal 'to reap: reaping sickle.'

However, the Muna words do not agree with Ved. IAGgala, though one can easily assume dissimilation of n-l. The word underlying RV IAGgala must have come from an intermediate language, in short, the Panjabi form of the Indus language (Para-Munda), with *laGgal. This form cannot have been that of the Southern Indus language (Meluhhan) as this has resulted in Drav. *Jankal, Jankel. While the difference is small here (g/k, n/l), it is more substantial in other agricultural words.

RICE

The word for 'rice' shows a difference between a Northern form, approximately ** (@) Ē@rij, versus a southern one, *vari, (v) ariki, variJci. Note that this indicates the same difference in tenuis/media as met with in the word for 'plough':

N.*laGgal, *v@riji :: S.*naGkal, *variJci/variki.

Still another form exists in Proto-Munda *@-rig; it has provided Dravidian *(v) ari, variki> Tam. arichi, ari, Kan. Akki (DEDR 215), and also Tam., Tel vari (DEDR 6565).

Though rice is indigenous to S. Asia, the domesticated version can be traced back to S.E.Asia and S. China⁶. It has been found in India since the 3rd millennium BCE (Glover& Higham 1996, Kajale 1991), and appeared late in the southern Indus civilization, at Pirak c. 1700 BCE. However, it appears first (as vrIhi) only in post-RV texts (AV, c. 1200 BCE), though it probably was an ingredient in the RV offerings puroDAza 'rice cake' and odana 'rice gruel'. The older IA grain is only yava 'barley', but later on we have 7 or 10 agricultural products: in the yajurveda saMhitAs. the 'seven agricultural plants' (sapta' grAmyA'

⁶ The earliest archaeologically found rice is said to come from Koldihwa near Allahabad (c. 5440/5430 BCE or even earlier): this has been doubted. A more probable date is c. 4000 BCE, at Chirand in Bihar.

o'SadhayaH); ZB 14,9,3,22 has even ten: vrIhi' *Oryza sativa* L.; ya'va *Hordeum vulgare* L. subsp. *hexastichum* (L) Schinz et Kell.; ti'la *Sesamum indicum* L.; mu 'sa *Phaseolus mungo* L. var. *radiatus* = *Phaseolus Roxburghii*; a 'Nu *Panicum miliaceum* L.; priya'Ggu *Setaria italica* (L) Pal.Beauv. = *Panicum italicum* L.; godhU'ma *Triticum aestivum* = *Triticum sativum* Lam.; masU'ra *Lens culinaris* Medic. = *Ervum lens* L.; kha'lva *Phaseolus radiatus* L. a variety of *phaseolus mungo* L. = mASa (?); khla'-kula *Dolichos biflorus* L. (W.Rau, in: Witzel 1997: 203-206).

Southworth (1979, 1988: 659-660) supposes an Elamo-Dravid. Origin: *var 'seed, grain', Elam. Bar 'seed'. PDrav (stage 1.c. 2000 BCE) *vari 'rice grain'. (McAlpin 1981, Tyler 1968, Southworth 1988). Achaemenid Elam. Umi 'grind (grain)'. *um to process grain'. PDrav *um 'husk, chaff' DEDR 637; (this should be compared with *gant-um-a, gandh-uma!). However, the Elamo-Drav. family has not been proven to the satisfaction of Dravidianists (McAlpin (et al.) 1975, Krishnamurti 1985, Zvelebil 1985), and the N. Drav. language Brahui, seen as a link by McAlpin, is a late-comer to Baluchistan (Elfenbein 1987). Southworth (1988:664) stresses the difference between northern (Gangetic) and southern rice, which might have been dry land rice.

On the other hand, Southworth later on mentions that PDrav *(v) ariki DEDR 215, has been taken over from PMunda at c. 1500 BCE: *@rig 'millet, *Panicum militare*' (Zide & Zide 1973: 8) - - > *arik (i) 'staple grain' (Southworth 1988: 660), because the South Drav. sound change k>c took place only between the second and third stage of Drav. (Krishnamurti 1969); thus: Munda *@rig - - > Drav. *(v) ariki > Tamil ari, arici. This South Dravidian form ariki has been transmitted westwards, probably by sea trade, Greek o'ryza, o'ryzon and Arab. Ruz, Engl. Rice etc. (Southworth 1979: 202, of EWA II 598).

Southworth also reconstructs PDrav. *vari, *variJci DEDR 5265. this, too, was transmitted westwards, but via the Baluchistan-Bampur trail, to Old Iranian as *brinj, M.Iran.brinj, N.Pers. birinj). It must have been this form that was the basis of the word in the late Southern Indus civilization.

The northern track westwards is attested by Ved. vrIhi <pre-IA *vrijhi-and reflected in the E.Iran. (and N. Iran?) languages: Pashto wriZE, (but Khotan.rriysua (rIzua!)), Nurishtani wrI.c, rI.c (cf.Fussman 1972).

The Northern Indus dialect had *vrij > Ved. *vrijhi > vrIhi, Nuristani wrI.c., Pashto wriZE. The Southern dialect is indicated by

M.Perse. *brinj*, N.Pers. *birinj*, going back to *v @riJji, Dravidian *variJci, a form with "infixed" -n-, found in central Dravidian: Gondi *wanjI* (Pengo *verci* (1), Gadaba *vasil*, DEDR 5265). The form with -n- points to Munda origin and to a relatively far-reaching influence or expansion of the Munda in this early period (cf. Kuiper 1955: 140, 1962: 14, 51, 1991: 39f.) Again, this distribution also suggests a difference between, on the one hand, northern, or north-western form, including the northern Indus language, and on the other, the southern Indus language and the rest of the subcontinent.

However, these forms have to be reconciled with Tibetan 'bras [*@bras*] > mod. Tib. [*je*], Purik *bras*, with the neighboring, linguistically isolated Burushaski *bras* (Kuiper 1962: 40, 1955: 143 n. 17, Tikkanen, 1988: 303-325), Dumaki *bras*, and even with some Austronesian forms such as Malay *b@ras* - - > Somali *bari*'s ?; cf., however, Dayak *bari*, Malegasy *vare*, *vari* - - > Bantu *wari*, *wali* (Nurse 1983, Southworth 1988: 664, Witzel 1995) and O.Jpn. *uru-shine*, (cf. mod. Jpn. *uru-chi* < **uru-ti*). Both *bras* and pre-Vedic **vrijhi* must go back to a source such as ** @w@rij (Witzel 1997).

In the study of the Asian words for 'rice' we have to take into account words from S., S.E. and E. Asia:

- S. Asia: Ved. *vr̥hi* < **vrijhi*,
 Burushaski *bras*⁷, Tib. 'bras'⁸,
 Drav. **arici*, **variJci*;⁹
 Munda **@-rig*,
 Tib.-Burm. **dza*-¹⁰ < Austr. **Cs□maq*

⁷ Southworth 1990: 229, n.10: PIA **camala/cAvala* < TB *ca-?* (*dza*): cf. Southworth 1974, with an early Drav. substrate in the northwest and in the Gangetic plains: < Tib. - Burm. **cA+vAl/vAr* < Drav. *vari*? - - other IA words for 'rice' (*oryza sativa*): OIA *taNDula* < Drav. (Southworth 1988: 660); OIA *zAli* < Tib. -Burm. *Cau-/ Austr. Csamaq* (Benedict 1990); P. Drav. I * *manji* (k) DEDR 3790, 'rice plant', but also 'seed' in Kurukh.

⁸ Benedict 1972: 123 [*@bras* : *@bras*]: cf. also TB **mruw* 'grain, seed' Benedict 43: no. 150 Tib. □Bru 'grain (and Nepal. inscriptions, with -brU -bU, see below), and (?) Lushai *buh* 'boiled rice'.

⁹ Southworth 1990: 229 n.9. - In Drav. the word for 'rice' cannot be reconstructed for the early stages (Pdrav. I), where only the meaning 'seed' is found: Kurukh *manj#* 'seed in general' and Tamil *arici* 'seed' in: Elav- *arici* 'cardamom seed' DEDR 768. -- cf. also Guj. Varl 'particular kind of grain', Mar. varl 'grain Coix barbata', Pkt. Vara 'a kind of rice: CDIAL 11328 varl, -- all on the Drav. trail South from Sindh.

¹⁰ Ved. *vr̥hi* has been supplemented in NIA almost everywhere by Tib.-Burm. CDIAL 4749 * *cAmala/cAvala*. Ptk. *Caulū* (pl.), *cavala*, and NIA *bhAt* 'cooked rice' (Southworth 1988: 666): for this see Benedict 1972: 28 no. 66 'to eat', Kanauri *za*, Garo *tSha* 'eat', Lushai *fa□*, fAng, Bahing *dz'a*, Newari *ja* 'cooked rice', *jaKi* 'uncooked rice' (cf.

Kusunda cusum 'rice in husks', kAdiyun 'cleaned rice'

-S.E. Asia: Munda *r_ung-ku_g (Zide & Zide 1973: 17)

Austr. *Csamaq

Austrones. *pajay;

Austrones. *I-may

Thai *xau > khaw (Haudricourt, in Shafer 1966-7: 522)

Austro-Thai *kru-may (> Jpn. kome)

-E.Asia: Chin.*mi@r, Tib.-Burm. *may¹¹

The distribution of the various words for 'rice' points to an old (South-) East Asian word of culture. Just as in the modern spread of the E. Asian word 'tea', several routes of distribution have to be distinguished:

1. an approximate reconstruction of the S.(E) Asian word

@vrij (h) i/@bras. probably < **@w@rij¹², which is spread out in a wide arch between

2. E. Asian *@ may, *xau, krumay (<kru-*may?)¹³ and

3. S. Asian *@-rig¹⁴, *r_ung-k (□g).

Lushai caw 'cooked rice', caw ciar); theTib.-Burm. Word apparently is a loan from Austro-Thai: *Csamaq, S. Benedict 1990:175.

¹¹ Benedict 1972:149 n. 408, 491-2 Tib.-Burm.*may as early loan- word from Austro-Thai, e.g Insones. imay 'rice' (but O.Jpn. yo'ne, Jpn. ine, -shine 'rice plant' <yinai, according to Benedict 1990: 234; cf. also ne 'root'); Chin.miei < *mi@r rice (paddy)', Bodo-Garo * m [a.e]y; Karen *may; cf. Tib.-Burm. *s-min ripe, cooked') Benedict 1972: 106 \$ 432 (< Proto-Miao-Yao *snag 'cooked rice'? see Benedict 1992:234).

¹² Benedict 1990: 43 reconstructs Proto-W.-Malayo-Polynes.

(Hesperonesian) * prajay (Mal.padi. Jav. Pari. cf. the Engl. Loan paddy; however he also has (1990:77) Proto-Austrones. * pagr [@]y. that differs from the S. Asian/Central Asian cluster * vɪ#jhi /bras by a transposed (?0 -r- (perhaps: Austric * * w³/₄-r@ji /.*pa-Cj/gr@y > *pagr@y, *pajay??).

¹³ Benedict 1990 assumes Proto-Austro-Thai krumay, whence Jpn.kome, kuma (-shine). In connection with the Tib. -Burm. And Sinitic forms (mi, may, Benedict 1972) a compound * * kru + * * may may be construed. The prto-form * * kru seems to be the source for the words for 'rice' in sino-Tibetan, Austro- Asiatic and Austro-Thai including Austronesian).

¹⁴ The Austro-Asiat. Words still are very close to those in Austro-Thai: PMunda *r_ung-ku (□g/□b) <Austro-As. *@rig. 'millet. Panicum militare'. Pinnow 1959: 96 \$ 139 derives *r_uG from Kharia Duru 'to pound rice' etc. (p. 92 \$ 116). And -ku (□b) from Sant. HoRo, Mundari huRu etc. (p.122 \$ 244), cf. also Kharia kho ~sRo~ pe□ etc. (p. 171 \$ 370). - - In Munda there is, next to Kharia romku□b, also Juang ru (n) kU, Sora ruGkU-n. Bondo/Remo, Parengi ruGku, Gutob rukU (Pinnow 1959:96). and in easestern Austro-As.: Khasi khau, Mon unko, Khmer oGkor: -Thai khAu may be a loan word from, Austro-As.? Further : Palaung ra-kO.Kuoi aGjkau, Sue raGkao, Palaung ra-kO. Palaung -wa unko, Sakai: Krau (Ketiar) u-kuok, sakai also: c@nroG 'husked rice'. Krau (Kuala Tembeling) r@-kua etc. (Pinnow 1959:96. Kuper 1962: 51f.). The variation in Austro-

Pmunda *rung-ku (□g) (Zide & Zide 1973: 17, * (r) – (n) –ku, Kuiper 1962) may be an Austro-Asiatic form with prefix r-. This might be connected, via metathesis, with Benedict's Austro-Thai-Japanese *krumay (>jpn. kome, kuma-shine), a word that may be composed, if Sino-Tib. (Benedict 1972: no. 65, 128, 149, 192, 193) *may, Austrones. I-may and Thai *xau are compared, of kru-may. In the end, one may think of a Proto-form ** kru as the ultimate source for 'rice' in S.E and E. Asia (Sino-Tib., Austru- As., Austro-Thai).

WHEAT

Further dialect differences between the northern (Panjab) and the southern (Sindh) forms of the Indus language can be observed in the designation of 'wheat'. Though some claim that wheat, the staple of the Indus civilization, is a local domesticate (cf. Allchin 1995: 46, cf. Allchin & Hammond 1978, Kenoyer 1998), it is a western import, as it originated west of the Zagros and south of the Caucasus. In S. Asia it is found as early as the 7th millennium BCE. This leaves several thousand years before the attestation of the S. Asian words for 'wheat', Ved. godhUma, Kan. gOdi etc.

These are clearly related to Near Eastern ones, e.g. Old Egypt. Xnd, Htt. Kant, P-Semit. *HanT. The individual track of the loan word differs, however, just as in the case of the word for 'plough', A from *gant-um that has entered via the northern Iranian trade route (media-Turkmenistan-Margiana/Bactra-Aratta/Sistan) has resulted in Avest. ghan@m < * gandUma?, Yigdha gondum, Shunghi Zinda; Khotanese ganama< gandama, etc. (see Berger 1959: 40f, EWA II 498). The Iranian form has also been taken over by the Drav. newcomer in the region, Brahui: xOlum < IA gholum (CDIAL 4287), From Bur. according to Berger (1959:42). However, Bur. GuriG, gureGm(pl.), gha'rum <ghor-um <*ghund- (Berger), seem to have been borrowed from the Indus languages. (Berger thought of a loan from Bur. Into the Panjab area languages cf. also Burgur 'barley, wheat colored', bur 'buck wheat' Berger 1959:43)

When this word entered the Panjab it must have changed its initial syllable (*gan-) to go-, thus* godum a change echoed by the Southern Indus language (*godi). Vedic has godhUma and similar continuants

As.. already observed by Kuiper, points to a proto-form (r) (n) –k (h) u. – Thus, Dhimal (=Tib.-Burm.Kiranti, eastern Himalaya) UnkhU 'rice', according to Kuiper < Munda *runku.

(Turner, CDIAL 4287). This is a clear folk etymology: the unfamiliar *gantum/gandum > *godum was analyzed as go-dhUma 'cow smoke'.

Another form of the Near Eastern word that has come via the Southern route (Elam/anSan-simaSki/Tepe Yahya-marhaSi/Bampur) has resulted in Meluhhan* gOdi. This is retained in Drav. *gOdi (Kan. gOdi, Tam. kOti, cf. DEDR 1906). The change from -an- > -o- is not unfamiliar in sindh (see below). A pre-Iranian *gantum must have become *go-tum or *go-dum in Sindh.

The Drav. word, too, seems to be a popular etymology of the unfamiliar *godum: 'low red plant', reconstructed by Southworth (1988: 658, 660) as PDrav. 3 at c. 1000 BC as kO-tumpai. May be he thought of DEDR 3334 Tam. tumpai etc. 'nettle, weed' etc. (cf. Tam. kOtumam, Mal. KOtambu?). The exact development from *tumpai > -di would then not clear: (at this supposed late date kOtumpai could even be based on RV godhUma!)

Obviously, in this case both the Northern and Southern Indus language have changed -an- > -o-, while the Northern language otherwise retains -an- (see below). The northern form, based on Pre-Iranian *gantum would have resulted in Vedic **gan-dhUma or perhaps **gandha-dhUma 'perfume smell', cf. CDIAL 4020 Skt. (lex). gandhAlun 'fragrant rice' Pashai ganda'r 'a kind of grain'. The southern (Meluhhan) *godi must have influenced a northern *gantum/gadam that facilitated a later Vedic popular etymology as 'cow smoke'. The mechanism of this influence unclear. It may be due to Dravidian influence on the Panjab in the Middle/Late Rgvedic period; note that godhUma appears only in early post-RV texts.

In short, the inhabitants of the northern Indus region (Panjab) thus must have called their wheat something like *godum and those in the Southern Indus region (Sindh), *godi.

§ 1.10. Further dialect differences

The strange sound change *an > o is not isolated. It also occurs in the migrant word of culture for 'hemp': Ved. zaNa (AV 2.4.5, PS 2.11.5 zaNa), M.Pers., N.Pers. San, Khotanese Saka kaMha (but gAndhArI > Niya Pkt. SaMNa), Osset. Goen, goenoe, (Greek ka'nnabis, EWA II 605; Engl. Hemp etc.) It appears, again, in Dravidian, with popular etymology, as Tel. gOnu, gO~gu, cf. gOGgUra, Kan. gOgi, 'hibiscus cannabinus' (DEDR 2183). The original northwestern form is guaranteed by the North-Iranian (Ossete), Greek and Germanic forms of the loan word: kana-bis, hemp, etc. The northwestern dialect has

preserved *-an-, for example in the Rgvedic, yet certainly pre-Indo-Aryan tribal name of the gandhAri (and in the later Vedic country gandhAra). The northwestern name zambara (in the Afghan hills), too, has not been changed to *zobar, but note the name of a poet in the more sothern RV 8, sobhari kANva.

We have a clear distinction between N. Indus -an- and Southern Indus—o-. (Note that original *-an- appears in post-RV texts further east and south, in Dravidian as -o-). This is again a point that may turn out to be of importance for the decipherment of the Indus script which indeed has several features (special signs) that are different in Harappa (N) and Mohenjo Daro (S), (see B. Wells 1998).

This is the opportune moment to briefly discuss another northwestern peculiarity, the interchange of k/z in Vedic. This has occasionally been observed, even one hundred years ago in the case of karkoTa/ zarkoTa, but it has not been put into proper relief (Kuiper 1991: 41, 42, 44 as Proto-Munda, cf. KEWA III 309, Witzel 1999). The interchange of k and z is not related at all to the well-known Indo-Ir. Development of IE *k' > Ved. z, as the present variation occurs only in 'foreign' words.

The name of the snake demon zarkoTa (AV) appears also as karkoTa(-ka) RVkh 2.14.8. and locally especially in Kashmir and Nepal; cf. Bur. Hergin (Berger hargi'n) 'dragon' or rather gha' rqa (Berger gha'rqa: CDIAL 3418?) 'lizard', Skt. karkaTa 'crab', Mundari kaRkom etc. (Pinnow 1959: 341 \$483d). The prefix zar-/kar- can be connected with [s@r-] of the '300 foreign words' (Kuiper 1991: 40-1, 1948: 121), for example in sRbinda (Kuiper, 1939, 1997: 3-392.), ku-sur (u) -binda, bairinda (Bind tribe), post-Vedic vindh-ya.

Further materials include kamabla/zbara 'blanket/name of a demon', kabara/zabara, kIsta/zISTa 8.53.4 (with var. lect. zIST-, zIrST-, zIrSTr-, see above), kimIdin/zimidA- 'demon/a demoness', kambu/zambu 'shell' (Kuiper 1955: 182), cf. KU-zAmba, Kau-zAmba 'name of a person', cf. ki-zora 'filly' AV, 'Youth' CDIAL 3190: zi-zu 'baby', zi (M)-zu-mAra 'Gangetic dolphin', zizUla 'dolphin' RV (EWA II 641-2; Le'vy, in Bgchi 1929: 121 sqq.), kirAta/cilAda 'a mountain tribe', kiknas 'ground grain' AB: cikksa 'barley meal' lex., Bur. Son~ Ved. kANa 'blind' RV.

The realization [k'] or [z] of an unknown phoneme (probably k') would easily unite such words as zam-bara: kam-bala, zabala: kabara; it would also offer a better candidate for Pinnow's unexpected reconstruction for the Munda and Mon-Khmer self-designation *Sqwar

> zabara AB, and in the tribal names> Sora, Hor, Kora, Kherwar, Koro/Korku, Khmer etc., Pinnow 154 §311); rather from *k'awar. *k'amwar.

In consequence, Vedic loan words with the interchange of z/k may go back to aphoneme k' with realization close to [k'] or [z] in the Indus language.

Millet

Another dialect difference can be observed in the 'new' import at the time of the Indus civilization, millet. This domesticated plant has originated in China and another variety in Africa (Southworth 1988: 665, Randhawa 1980: 504; Nurse 1983, summarized by Cavalli-Sforza 1995, see now Meadow 1998). The Chinese words have no similarity to the Indian ones (Karlgren 1923), and the source of the Indian words has not been established so far; any language between the Sahel belt and Baluchistan is possible.

It has to be noted, that in the case of this comparatively late import, -an-.-am- has been preserved both in Proto-Munda *gaGgay, Dravidian DEDR 1084 kaGgu (Tam. kaGku), DEDR 1242 kampu, Ved. priyGgu, OIA dialects *kaGkuna, *kaGguna, *taGguna (which may provide some indication of the time frame for the words discussed above).

Even though comparisons between the various words for 'millet' can be made, they cannot be traced back, as is the case with many widely spread loan words, to a single source. Hindi kaGgnI can be compared with OIA *kaGkunI CDIAL 2606, with Tamil kampu DEDR 1242 and with Munda *gaGm(-) gay (Southworth 1988: 660, Zide & Zide 1973: 8). The source of these words may have had a form such as **kaG-CV. From this, Ved. priyaGgu (EWA II 190) can be derived as well, as it seems to have been changed by popular etymology, like several other agricultural terms: prefix *p@r- (Kuiper 1991: 42f.) > *priya+gu 'dear cow'. Other IA designations of millet are: Ved. aNu and *aNuni CDIAL 195. All of this points to a contamination or cross of *kaGgu and *- (k/g) aGgu-- > Ved. aNu, cf. Kuiper 1991:38). In short, all major language families of S. Asia have taken over the word from an unknown, but not exactly the same source.

Nevertheless, a clear difference between Northern and Eastern /Southern forms is visible: PDrav. *kampu is opposed to PMunda *gaGgay (Zide & Zide 1973), while the IA forms stand in between the two. The usual IA form is Ved. aNu (cf. O.Indo-Aryan aNunI, Turner, CDIAL 195). However, based on Ved. pri-yaGgu <p@r-

gaGgu? And the reconstructed OIA forms *kaGkunI, *kaGgunI, *taGgunI (CDIAL 2606), a northwestern Indian *kaGkun, a central-northern *kaGgun, more eastern North Indian *taGgun can be reconstructed for the pre-Vedic period, while the Southwest must have had, next to Drav. *kampu DEDR 1242 (=Skt. kambU, in hemAdri) also a form *kaGgu CDIAL 2605, DEDR 1084. The northern Indus language should have had *kaGku (n), its southern dialect (Meluhhan), *kaGgu.

The modern languages also do not agree: In Hindi (Masica 1979: 76 sqq., 135f.) we find various terms for the many varieties of millet: kaGgnI (*kaGkunI CDIAL 2606); kuTkI (Masica from Skt.kuTakA, not found in the dictionaries; cf. kuTka 'a kind of tree' KauzS.); kodoN (CDIAL 3515 kodrava 'grain eaten by the poor' Mbh., cf. koradUSa 'idem' Suzr., -ka KZS; DEDR 2163 Tam.kural. Kan. koRale, korle; Konda koren 'a grain,') ; khil (Masica: from Skt. khiD), junhAr, j(u)wAr) (*yonAla> yavanAla> juAr, < Drav. *coN2N2el, DEDR 2359, DEFR2896, CDIAL 10437); bAjrA (Vedic: HZS varjarI, CDIAL 9201 *bAjara); ma (N)Rua (CDIAL 6728 < maDka 'the small grain Euleusine corocana'); sAnwAN (Ved.zyAmaka VS, CDIAL 12667). Some of them belong to the c.30% of agricultural vocabulary in Hindi that comes from Masica's "Language X".

Finally, as pointed out above, the word for 'peacock' must go back to a northern Indus form *mayur> Ved. MyUra RV level II, and to a southern form *mayil/r> Drav. Tamil mayil, Irula muyiru, Tulu mair, Konda mrIlu, miril etc.

In summing up, it can be stated that in the north-west and also in the Panjab, as represented by loan words in most of the RV, original northwestern *-an- is opposed to southern -o-. The same relationship is also found in north-western z: subcontinental k, north western-J-: subcontinental zero in the word for 'rice'. We can discern a clear difference between the Panjab (-- > Vedic) and Sindh/Gujarat (-- > Dravidian) forms of the Indus language.

Dialect differences between Panjab and Sindh seem even to be indicated in the Indus inscriptions themselves. Seals and plates from Harappa (Panjab) differ in a number of items from those found at Mohenjo Daro (Sindh), for example in the sign for 'container, quantity' which looks like a V; this is almost only found at Harappa (B. Wells 1998). The same applies to some 'suffixes' in the inscriptions (Wells, by letter 1999).

It can be concluded that the Meluhhan variety of the Indus language was the 'original' language of Sindh. Was it also the Indus trading language? In that case, it has disappeared, just like Sumerian and Elamite, and traces may at best be found in Sindhi -- a step that has not been taken. There is no etymological dictionary of Sindhi.

\$ 1.11. Dravidian immigration

The observations about the early linguistic evidence from Sindh, made above, indicate that speakers of Dravidian were not a primary factor in the population of the Indus civilization, even of Sindh, and that they were immigrating into the Panjab only in middle Rgvedic times. But when could they have entered South Asia?

Earlier scholars (Heine-Geldern 1964, Pinnow 1954: 15) thought that they entered S. Asia (sometime as late as the early 1st millennium BCE) and proceeded via Baluchistan, Sindh and Gujarat to S. India (Zvelebil 1970, 1990: 48, 123). Indeed, their tracks are still visible in certain place names in Sindh, Gujarat and Maharashtra (see above). According to Southworth and McAlpin, however, the semi-nomadic speakers of Dravidian who even had contacts in Iran with the pre-immigration Indo-Aryans (Southworth 1979: 203, 228 f., 1990: 222-3, 1995), came to S. Asia relatively late, but early enough to participate in the Indus civilization, from which they acquired agriculture and the accompanying vocabulary. This scenario, if applied just to Sindh, explains why the c. 300 foreign words of the RV (in the Panjab) with their (agricultural) vocabulary are relatively free of Drav. influence.

According to the indications given above, the Dravidians apparently were just as foreign to Sindh and its agriculture as the Indo-Aryans to the Panjab. As the Northern Indus language (Para-Munda) differs considerably from the Southern one (Meluhhan), it seems likely that the speakers of Indo-Aryan entered the Panjab and acquired local words from the Northern dialect, (zaNa, IAGgala, vrIhi, godhUma, kaGgu, gandhAra), and that the Dravidians entered Sindh at or about the same time and acquired such words from the southern dialect (gOnu, JAJcil, variJci, godI, kaGku/kampu). It may even be the case that the first who made horses statues at Pirak (1700 BCE) were Dravidians, not IA bhaIAnas. For the first use of horses must not necessarily be linked to speakers of an IA language.

The Drav. words for 'horse' underline this: DEDR 500 Tam. ivuli, Brah., (h) ulli, 1711 Tam. kutirai, Kan. kudire, Tel. Kudira, etc., 3963 Tam. pari 'runner', 4780 Tam Tam.mA 'animal' (horse, elephant), Tel,

mAvu 'horse, (Cognates mean 'deer' etc. in other Drav. languages), cf. Nahali mAv 'horse'. These words are quite different and independent of IA azva 'horse' avan various words for 'runner' (arvant, vAjin, etc.), etc.

On the other hand, the technical terminology for chariots is IA and IE. It has been taken over into Drav. : akSa 'axle' RV > Parji-Kolami accu 'axle'; Ani RV > Ani 'lynch pin', ara RV > Ar 'spoke' (cf. Southworth 1979: 230 n. 14). Note that the earliest II r * ratha 'chariot (with two spoked wheels)' (Gening 1977, Pigott 1992, Anthony u. Vinogradov 1995, cf. Littauer u. Crouwel 1996) is found about 2000 BCE, near the Volga (North Iran. *rahA > Greek rha~ = Avest. RanghA, Ved. rasA). The II r word for 'chariot', however, is old enough to have resulted in the archaic compounds Ved. rathe-SthA, Avest. RathaE-Sta- 'chariot fighet', cf. Old Avestan rathI, RV rathI 'chariot driver', Dravidian has nothing of this, but possesses words for 'wagon' or 'bullock cart'.

An early wave of Dravidian speakers might very well have preceded the IAS into Iran and S. Asia and some may have stayed on in SE Iran. (Note the strange absence of the western Baluchistan country of Mka in the Avestan record of "Aryan countries" in V.1, cf. Herodotos 3.94). A few IA loans in Proto-Drav. would settle the case, but culturally decisive words, such as for the newly introduced horse, the chariot, or other pastoral terminology do not exist. The Dravidians hardly had any previous contact with the Indo-Aryans while still in Iran. Contra Southworth (1979: 196f.) there is little secure evidence for early loans from IA into Drv.; such words can have been taken over any time between the RV (1200 BCE) and the earliest attestation of Tamil at the begin of our era (see above, on Drav. evidence in Vedic). There are only a few questionable loans that might have come from the pre-immigration period, that is from hypothetical contact when still in Iran; these remain speculative; perhaps one can think of a common source for Ved. gar-da-bha EWA I 473, DRAv. kal-y-ti DEDR 1364 'donkey', similar to Ved. khara, Avest. Xara.

§ 2. EASTERN PANJAB AND UPPER GANGETIC PLAINS

§ 2.1. The Kuru realm

We return now to the epicenter of post-Indus development, the area of Eastern Panjab-Haryana-Uttar Pradesh, in other words, the lands from the Pakistani border up to Allahabad. In the early post-RV texts, its hub is kurukSetra, northwest of Delhi.

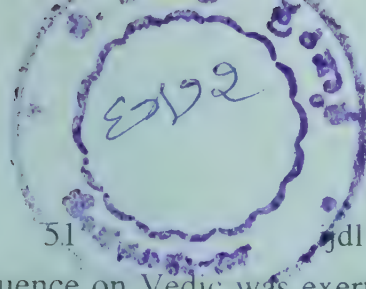
This is the realm of the middle Rgvedic Bharata and the late Rgvedic Kuru (Witzel 1997). The Bharata tribe and its successor, the new tribal union of the Kuru, represent a new wave of IA immigrants from the other side of the Indus (vasiSTha RV, 7, JB 3.238-9 \$204), which brought new linguistic traits with them (kuru for older kRNu, sarva for vizva, etc., Witzel 1989). The kuru dialect is remarkably more modern than the language of the bulk of the RV. However, RV book 10 often reads already like the next level, that of the AV and other Mantra texts of the Kuru period.

The Kuru confederation, supplanting the 50-odd Rgvedic clans and tribes, became the center of linguistic (Witzel 1989), religious and social (Witzel 1997) development. They formed, together with partly IA- acculturated Indus people (Arya-tribes such as the anu-druhyu, yadu-turvaza) and with the new addition of Dravidian speakers, a new society with a new elite kit (Ehret). This included pastoralism (cattle, horse, sheep, goat), IA ritual and acculturated customs, IA religion and ritual, but also post-Indus type agriculture (barley, wheat, rice, millet) and local artisans (potters, etc. see below). The new culture, Vedic orthopraxy and social system (with four classes) then spread eastwards into the Gangetic plains, and ultimately to Bihar.

Because of the amalgamation of the three groups (IA, Para-Munda, Drav) discussed above, we have to suppose a large degree of bilingualism and even trilingualism, and the forming of pidgins. (Kuiper has a forthcoming paper on a 'bilingual' Vedic poet). A Vedic pidgin must have been used at home, and proper Vedic Sanskrit was learnt 'in school', at the time of initiation of boys. While the lingua franca was a form of late/post-Rgvedic IA, pockets of the Para-Munda Indus language, of the newly arrived Dravidian as well as some remnants of the Gangetic Language "X" must have survived as well.

Among the post-Rgvedic texts, especially the AV is full of non-IA, 'popular' words of plants, animals, demons, local deities, and the like. Their character still is, by and large, Para-Munda, with some words from the 'local' language ("X"), and with some Drav. words included; all of which is clearly visible in the increase of words with retroflexes.

The linguistic situation is reflected, among other items, in the mixture of IA and other river names in the area. The famous Sarasvatī is also called vaizambhAlyA/ vaizampAlyA/ viballī; these names and that of the nearby vipAz<*vipAL/vipAZ all seem to go back to a local word *vi-zam-paZ/-paL, (Witzel 1999). However, and typically, there are no Dravidian river names in the whole Kuru area.



A hint of how Drav. influence on Vedic was exerted is contained in the name of the zUdra. From the late RV (10.90) onwards, this designates the fourth, non-Arya class; it was added to the three 'Arya' classes of Brahmins, kSatriya (nobility) and vaizya ('the people') only at this time. However, Greek sources of Alexander's time still place a tribe, the sudroi, at the confluence of the Panjab rivers with the Indus; this may still indicate their origin in Sindh/Baluchistan.

Drav. words first appear in Middle and Late Rgvedic, in RV 3, 7, and 8, especially in the kANva section. Interestingly, it is tura kAvaSeya, the great-grandson of the Drav-named kavaSa 'straddle legged', a priest on the 'wrong side' in the great Bharata battle (RV.7.18) who becomes an influential priest in the Kuru realm and who developed the new, post-Rgvedic (zrauta) rituals (Proferes 1999).

It has been stressed by Burrow (1973: 386) that the post-Vedic texts have more Dravidian words; indeed, the evidence of Para-Munda words, too, is not diminishing but increasing during the Vedic period. This is the case right from the Mantra texts, and includes the yajurveda saMhiTAs whose territory can be easily established (Witzel 1987, 1989, 1997) as that of the area between E. Panjab (Lahore), Allahabad and the Chambal River area (Ujjain).

A complete discussion of the c. 200 longer or shorter Vedic texts must be postponed to a separate paper (for some lists, see below). In the mean time, one can compare the word index to the AV (Whitney 1881), or Vishva Bandhu's Vedic Word Concordance (in Devanagari script), in conjunction with EWA, KEWA (and DEDR).

The new tribal union of the Kuru (and their more eastern allies, the paJcAla), with their new social set-up and ritual expanded, incorporating the surrounding tribes, eastwards into the Gangetic plains, in a partly military, partly peaceful fashion until it reached northern Bihar (Witzel 1995, 1997). The eastern tribes were at first regarded as half-barbarian (JB 1.337 \$115) or 'asurya' (demonic).

The same is seen in archaeology: late Harappan people emigrated towards the Upper Gangetic plain (the only movement of people the archaeologists allow for the whole period under discussion here, Shaffer 1995: 139, cf. Allchin 1995: 33-35), a fact reflected in the Vedic texts as well. The emigration was possible due to a new type of agriculture, permitting cultivation of rice during the monsoon as well as wheat and barley in winter, resulting in a food surplus. The settlement at first occurred along the river banks, in half-nomadic treks (grAma, Rau 1997). This is reflected by the Painted Gray Ware culture, with their

clear elite pottery whose regional motifs indicate the split into western Kuru and more eastern paJcAla, something that is also seen in the Vedic dialects they use (Witzel 1989).

Not everybody is included: The non-IA kIkaTa (3.53) or the paNi are clearly described as foreigners (late RV hymn 6.45.31), and even later, in the Mantra an YV saMhitA period, the niSAda; in the Chambhal area (MS 2.9.5 etc.) and other dasyu 'enemies' (JB Witzel 1997: n.161, 163, 278); in RV 10.61.8 as well the South (i.e. the area south of kurukSetra) still is the land to banish someone.

\$ 2.2 The substrates of kuru-paJcAla Vedic

As has already been indicated, the features of the Rgvedic substrate language are also found in post-Rgvedic texts that were composed further east in the kurukSetra and in western Gangetic plains, as well as in the Chambal area. These words are not just the same as found in the RV, but there are many new ones.

In the Mantra period, starting with YV (MS, KS, TS) and AV/PS, we can clearly distinguish all three linguistic elements:

* Indo-Aryan with some already incorporated north-western elements such as Nurisistani kAca 'shingin piece of jewelry' or Burushaski kilAy ~RV kILAla 'biestings, sweet dring', Bur. Son ~ RV kANa 'blind in one eye', Bur. bus~ RV busa 'chaff, mist', (cf. Pinnow 1959:39), etc.

* The Indus substrate (Para-Munda), that also is found in the Ganges area (next to some elements of language 'X'), such as RV kuzika, karaJja, kaGkata, ziMzapA, ziMzumAra, puSkara, puSya, especially the words with prefix Cℓr (p ℓr/kℓr/sℓr-), kar-koTa-ka RVkh ~ zar – koTa AV, tila AV: jar-tila KS, kalmaza MS,KS-mASa PS, kul-mASa Up. : mASa AV, with the -Ta -zA/Sa – suffixes, and with-ND-: ka-maNDalu : maNDa-la, kaNTha? PS, etc.

* The Middle and Late Rgvedic Drav. element also is found in the Ganges area; godhUma AV (Hindi gehu ~ etc., Kusunda gabun), kuNapa AV, kurkura AV, cUDa ZB, coDa TS, eDaka JB, arka ZB, bilva AV 20 (Kuiper 1991: 66), -nIra- ZB, etc.

In short, the upper class IA language (of the Vedic priests) used in the upper Gangetic plains contains the same substrate elements as seen in the late Rgvedic period of the Panjab. However, due to the increasing stratification of society and increasing specialization among occupations, many words from the sphere of the artisans and from technology were added; furthermore many names of persons, localities and rivers.

Their affiliation can still be ascertained to some extent. With regards to agriculture, Kuiper's RV list (Kuiper 1991: 8,21, 96, see already Kuper 1955) contains quite a number of such terms (kInAza, IAGgala, blja, etc.) Especially among the artisans there is an increasing number of non-IA designations; many of them first appear in the azvamedha (MS kevarta, kaivarta TB)¹⁵. Some of them are, in line with the increasing specialization, new Indo-Aryan formations (anucara 'servant', grAma-NI 'leader of a trek, wagon train' etc.), but especially those of fishermen (kevarta/kaivarta, dAza, dhIvan, daivara, puJjiSTha, pauJjSTha, baina, mainAla) are non-IA (often until today). Furthermore, non-IA specialists are: musicians (talva, Adambara-AghATa, dundubhy-AghAta (cf. dundubhi RV), vINA-gAthin, vINA-vAda, cf. vINA KS (EWA II 568), artisans (kaNTakI-kArI, bidala-kArI, also kuIAla, and the pAlAgal, 'messenger' (cf. pAla galI 'fourth wife of a chieftain'), gaNaka 'astrologer' (cf. gaNa RV) and 'usurer' (kusIdin, kusIda KS).

Such words come up not only in the eastern parts of North India (Bihar, area of VS/ZB) but also everywhere from the Panjab (RV) and the Delhi area (MS, KS) eastwards, e.g. kInAza RV, gaNa RV, dundubhi RV, vINA KS, kusIda KS. The newly attested words have the same

¹⁵ Details: kInAza 'plough man' EWA: 'non- IE': kInAra only RV 10.106.10' – the following words all mean 'fisher' kevarta/kaivarta VS/TB: Pali, Pkt. KevaETTa, *kevATa. CDIAL 3469 and add., 3479: Drav. according to Burrow, KEWA I 566, DEDR 1252 Tam. kayal 'carp', Mal .kayal 'a fish', etc.; kai-in kevarta; -- dAza VS, dazera lex. CDIAL 6314 a jAt tribe: DahA; -- daivara VS, see dhI. CDIAL add. 6819 NIA. Kuiper, KEWA II 105 ~ tivara (lex.) = tribal name? – puJjiSTha also 'bird catcher?'. MS, VS, pauJjiSTha AV: no NIA etym.; -- baina ~Srbinda, Kuiper 1991, EWA ; -- mainAla< Drav. mIn 'fish': --- zauSkala ~zuSka 'dried up'? –Further: talava 'musician' VS ~ taD Epic 'to play a musical instrument'? Kuiper ZII 8,1931, 251; -- Adambara-ghAta 'drummer' (RV), eB EWA: onomatopoeic, Kuiper 1948:84 Munda; vINA-ghAthin 'lute player', also in Iran?, see EWA. Mayrhofer 1968, CDIAL 12048; vINA-vAda 'ditto': -- pAlAgala 'messenger' eB. -kaII eS. No NIA continuants; -- kaNTakI-kArI 'worker in thorns' VS: k-"thorn" eB, Iran?. Greek akantha? – bidala – kArI 'worker in thorns' VS; EWA "not clear", but cf. DEDR 5432 viL 'to split'; -- sirIn 'weaver? Only RV 10.71.9 (Ved Ind. 585-6); --gaNaka 'astologer' VS: RV, gaNa, *gRna, CDIAL 3993 and add.; Greek ageiro 'collect'; Kuiper 1948: 54 Munda; --kusIdin 'money lender' eB, kusIda KS, TS: Pali kusIta 'lazy', etym.? Ku+sad> Pali ko-sajja?? – parōraka? a tribal name? VS "Bhilla" in commentary. EWA ~ paNI?—paulkasa? VS a mixed tribe. Kuiper 1948: 54ff. – Indo-Iran.: malga 'wahwer man' <AV, mala: IE *mel; -- upala-prakSinI from IA uplA 'mill stone' TS: kulAla 'potter' MS, KS, VS.; EWA ~ RV kula 'hole, hollow', in mahAkula, Pashai kOIAla 'potter' CDIAL 3341; -- kōRSI-vala RV a-. AV kArSivaNa: suffix variation!; -- vaNij RV, vANija KS 'trader' < van-ij 'winning goods' according to EWA, Mayrhofer 1968.

'foreign' grammatical formations as seen in the RV: prefixes (ke-/kai-, dun-dubhi?), retroflexes (Adambara, kaNTakI-), initial b- (bidala), suffix-Ala (pal-Ala, main-Ala, cf. Oberlies 1994:341).

Similar data could be supplied for the spheres of material culture and the surrounding nature: agriculture and domesticated plants, local animals and plants, many items of food, illnesses and poisons, implements and utensils, and ornaments; this would lead to far afield in present context (see the list in MacDonell –Kieth, Vedic Index, Delhi 1967 [1912] 517-92)./ for more examples, one can consult Mayrhofer, EWA and for non-IA details especially KEWA; these may serve, in connection with CDIAL, DEDR, Kuiper 1948, 1955, 1991 and Pinnow 1959 as a first orientation.

\$ 2.3. The para-Munda substrate.

Prefixes with ka- are found in the AV, YV and the brAhmaNas (here follow only a few proposals for etymologies; it is to be expected that not all of the following words can be divided in the way proposed below; ultimately, this depends on a fitting etymology);

KapaTu AV, PS cf. with Sora pud-@n, Sant. o□d etc. (Pinnow 1959: 121 \$237; kapAla AV, ; kapiJjala PS; kapola RVKh. cf. Sant. PuTi 'to swell', Kharia poTki 'to sprout' etc. (Pinnow 1959: 173 \$378)~ puTa 'bundle, bag' MS, BZS; kaphauDa AV. see Kuiper 1948:44; kamaNDalu KS cf. maNdala etc.; karIra MS. KS; karIS-in AV; karuma AV; karUkara AV ; kalApin ZS; kaliGga AB, cf. Skt. tri-liGga, etc., see Kuiper 1948 45; kavaca PS (but see above, Zvelebil's no.13); kazambhUka SuparN.; kazipu AV; kazIti JB; kazoka AV; kazmaza? AV; kaSaya ZB; kaSkaSa? AV; kasrNila AV, cf. sarNika TS/sRdIka Ms (cf. sRdAku?); kasAmbu AV, etc.; kastUpa, kastUpa-stopinI PS, cf. stupa KS/stuka RV; kahoDa ZB, JB.

With 'double prefix' C@r-/C@I- there are the following words in which the many variants of the prefix in k@r-stand out:

Karkandhu MS, KS; karkI? AV; karkoTa-ka RVKh ~ zarkoTa AV, PS, cf. Mundari kar-kom (Pinnow 1959: 341 \$483 d), Kuiper 1991: 41, 44, 1948: 121, Bur. gharqas 'lizard' ; kardama KS cf. Munda ko-dil, @-dil 'dirty' (Pinnow 1959: 87 \$101); karpAsa Suzr.. kArapAsa ZS; karzapha AV, PS: zapha? garmut TS, gArmuta MS (Kuiper 1948: 146m CDIAL 4063: Sindhi gamu 'a sort of grass'); kalkuSI PS; ZB, kalmali AV; kalmAza MS, KS, kalmAza- ZS, PS; kArSmarya KS; kharjUra 'date palm' KS; gulma? SaMh.; jar-tila 'wild sesame' KS · tila 'sesame' AV : jarvasra PB; jalASa PS (or -Asa suffix); palala SU., palAli AV; palAva

AV; palIjaka AV; barjahA, barkara ZS; Barbara KS; barhiNa ApDhS; bharUji AV; marIca ApDhS; markaTa KS/markaTAka ApZS; zarkara AV, cf. Bur. ghorō?; zarkoTa AV, PS (see above karkoTa): sardigRdi TS.

Double prefix C@n-/C@m-in:

KaGkUSaAV, PS~ zaGku; kaNTha? PS, (saha)-kaNTh-AV, cf. Kharia konko, khmer ko, Mon ka□ "Possibly old compound", Pinnow 1959: 132 \$ 276; kANDa ? AV, cf. Kharaia koNDen 'bamboo', (Pinnow 1959: 132 \$275); kaNDUy-? KS; kandhara Up; kamabala AV ~ zambara ?; kambUka AV ~ zambUka; kamboja PS, cf. Greek Ambautai; kAmpIla-KS; jAbmila KS ,TS; taNDula AV; talAZa? AV (if not with -Aza suffix); parUSaka ZS; palANDu ApDhS; paLAza TB (if not with -Aza suffix); palIjaka AV; palpUana AV; palvala SU; pAlAgala ZB, -I ZB; barza? KS, barzva? KS; balAsa PS, balkasa ZB; balbaja RV; balbUtha RV; bhalAnas RV.

From the post-Rgvedic materials come words with other prefixes in C@r-and with othe vowels, etc.:

Kirika YV, girika MS; kirmira VS, etc.; kul-mASa Up. Cf. mASa AV; ku-Taru YV, etc.; sRdAku 'lizard', etc., lex., sRdAku/-gu MS, sRdara 'snake', etc. Mayrh. ZDMG 110, 6189 Munda prefix sR - + da□k 'water', see KEWA s.v. sRdAku, etc.; kazmaza? AV; kaSkaSa? AV; jASkamada AV; maSnAra AB; masUra? KS, masura TS; etc.; prakubrata ZB, prakudrata ZBK, pramota AV etc.; tilvaka ZB, tailvaka MS, etc.; tumbara KauzS etc.

Further Vedic words which are suspected of a Para-Munda origin are, among others:

Me-khala AV: zR-G-khala Skt.; khaDga MS, EWA 443, cf. N. Pers. Karka-dAn, Arab. karkaddan, Aelianus karta'zOnos (*kargazOnos) 'Indian rhinoceros', cf. Kuiper 1948: 136 sqq.; karta/garta to be compared with Kharia gaRha 'river', Mundar gaDa, gaRa 'pit trench, grave water course, stream, river'; Sant. gaDa 'hollow, pit, excavation, trench, river, ; etc. (Pinnow 1959: 351f. \$ 498): tittira KS, MS cf. Korku titid, Santali sengel titi 'Guinea fowl': Kharia khonthē□D, Sora on -tid@n (Pinnow 344 \$ 488a); probably also: musala AV; jala? RVKh, PS; dhUkSNa/dhluKSNa/dhLkSNa PS, jhaSa ZB: jaSa AV, TS: caSa VAdhB; drumbhUII MS/ dAlbhuSI KS/ class. Dambholi, see Kuiper 1991: 26 (cf. p. 18, 47, 61, 75).

Para-Munda suffixes.

In order to characterize the substrate, certain typical suffixes can be used. Kuiper (1991: 45 sqq.) has isolated the following in the

substrate of the RV: -Ala, -ASa, -Isa, -Usa/-Aza, -IzA, -Uza, -Ta, -nas, -ya, -ra, -za/Sa, -ha. Among the suffixes are to be underlined in this context are those often found in personal and tribal names, in -Ta (KikaTA, kRpITa, birITa, kevaTa RV/ avaTa SV?), and the ones in -Ala/-Ara (kilAla, caSAla; mainAla VS, cf. IA karmAra RV 'smith'; GandhAri RV, GandhAra, AbhisAra etc., cf. Witzel 1999).

Such suffixes also appear in post-Rgvedic time in the texts of the mantras period and in the Yajurveda-SaMhitAs, e.g. kalmASa 'spotted' VS, TS; niSkASa 'scraping' MS.KS; yevASa 'an insect' AV, evaSa MS 4.8.1:107: 16, yavASa KS 30.1, KpS 46.6 (vRSaz ca yavASz ca); RjISa a name of Indra, RV, 'residue of Soma' AV, uSNISa 'turban' AV; karISa [-ja] PS, 'dung', karISin AV, KarISa ZB, (cf. the frequent purISa 'dung'); cf. also tUSa 'border of garment' KS; later also: palAZa 'leaf' TB, ZB, ni-palAza ZB, zirISa 'Acacia sirissa' SaDv, B, etc.; cf. also jhaSa 'a certain large fish', ZB jaSa AV, TS, caSa VadhB.

Para-Mundas in KuruskSetra and in the Gangetic plains.

The words mentioned above clearly show that also in post-Rgvedic, i.e., in the Mantra texts (AV, SV, RVKh, YV), in Yajurveda Prose, and in the BrAhmaNAs, such Para-Munda words can still appear for the first time. Therefore, they had either already existed in Vedic colloquial speech or they entered Brahmanical High Vedic at that particular point in time from the sphere of village life or of the artisans. The area of the early post-Rgvedic texts (Mantra texts, YV Prose) can be localized fairly well (Witzel 1987, 1989): it contains KurukSetra (i.e. more or less, modern Haryana) and the western gaGga-yamunA-doAb (i.e. the Gangetic plains of western Uttar Pradesh).

In these areas, where no modern groups of Munda speakers survive, the same Rgvedic substrate with its typical prefixes can be found. That means Haryana and Uttar Pradesh once had a Para-Munda population that was acculturated by the Indo- Aryans.

If the late Vedci texts (such as the JaiminIya Br. And zatapatha-Br.) are added, the area in question is further enlarged to include the regions south of the Ganges and east of Uttar Pradesh. Here, new Munda words appear as well; however, these regions include those where even today Munda languages are spoken.

In short, a strong Austro-Asiatic substrate is found both in the early Panjab (RV, c. 1500 BC) as well as later on in the Ganges valley (YV saMhitAs, brAhmaNAs, c. 1200 v. – 500 B.C.), a fact that can also be shown in the names prevailing in these areas (Witzel 1999).

As examples, I mention the river names gaGga (popular etymology of Munda ga (N) D), gaNDak-I (see below), narma-dA, and tribal names such as maraTa, vibhindu (and vibhindukIya, cf. nAr-ka-vinda PS 12.2.3, sR-binda RV (Kuiper 1991: 40-43, 1997), ku-suru-binda TS, TB, ku-sur-binda JB, baina VS, cf. Munda bid 'insert, plant, sow', Pinnow 1959: 143 \$285), zabara (*Zqawar, cf. Pinnow 1959: 154 \$31; rather from *k'awar/zawar), puNDra, aGga/vaGga (cf. also gaGga?; further : pra-vaGga), kaliGga (cf. teliGga/triliGga, see S. Le'vy in Bagchi 1929: 100, cf. Shafer 1954: 14, 122 as Tib.-Burm.; Kuiper 1948: 5 compares kuliGga 'fork-tailed shrike' Mbh., and *liG in Munda, Khasi, Mon, Khmer, Malay); ikSvAku (RV, emigration from the Panjab eastwards, Witzel 1997: 307 sqq., 321, 1989: 237), niSAda/*nisadha/naiSadha, mucIpa/mUtIba/muvIpa, magadha(cf.pra-maganda), zaphAla cf. zAvasa, vasa etc.

However the truly eastern words (Uttar Pradesh, Bihar) are, next to some remnants of language "X", of Munda nature: there are many personal and place names (Witzel 1999), e.g. that of the river gaNDak (I), or even that of the Ganges, with popular etymology: gaGa, a sort of intensive formation of gam' to go' (if not modeled after the tribal names aGga, vGga). Pinnow (1953-4) has pointed out many river names, from the gaNDakI to the narma-dA which contain the Munda element *-da', *-da'k 'water' (Pinnow 1959: 69), for gaNDa (kI) cf. Santali gADa, Ho gaDa 'river' (Pinnow 1954: 3).

The gaNDakI is not attested in Vedic, and is referred to as sadAnIra 'always having water'. Apart from the Epic, it appears in local context, the early Licchavi inscription (467 CE), Sanskritized as gaNDakI and in other Skt. texts: kAla-gaNDika, gaNDARika, apara-, pUrva-; the shorter version, gaNDI, appears from the Epic onwards, and several times early on in Nepal as gaNDi-(gulma-viSaya) (998, 1092, 1165 CE, see Witzel 1993). The gaNDaka appear as people in Mbh. As well.

Further, tribal names such as pulinda/pali bUli, Pali moriya (from Skt. MyUra 'peacock') and also mara-Ta (PS), (from Munda mara□ 'peacock'), kunti from Munda kon-ti 'd 'bird', cf. RV za-kunti, Epic za-kuntalA, etc. (contrast the IA matsya 'fish' (RV), a tribe just west of the Kunti), mUtiba (mUcIpa), zabara (mod. Saora?), puNDra (Bengal), the aGga, at the bend of the Ganges, and the neighboring vaGga (Bengal). The prefix change in aGga (AV)/ vaGga (AB) is indicative of a Munda formation (Kuiper 1991: 43). Mundas may also have lived in the hills

and valleys of the sub-Himalayas, for example in the Kathmandu Valley (see below, Witzel 1993).

Other typical words of the Gangetic plains are, from west to east: sardigRdi TS, palAza TB, palANDu ApDhS, tumbara KauzS, kazIti JB, kirmira Vs, kaSAya ZB, pra-kudrata ZBK, pra-kubrat ZBM, ka-hoDa ZB, JB, kul-mASa Up. Etc. Especially informative for regional dialect feature of the substrate, from W. to E.: jaSa AV, TS: caSa VadhB: jhaSa ZB 'a certain large fish'.

The Rgvedic substrate thus has the same grammatical structure as the words in the yajurveda- saMhitAs and the brAhmaNas that newly appear from the substrates of the KurukSetra (Haryana) and Ganges regions (doAb, Uttar Pradesh). It is of great importance that we can detect the same Indus substrate as found in the RV. In other words, the Rgvedic Panjab as well as the post- Rgvedic Gangetic Plain were largely settled by speakers of Para-Munda (including remnants of Masica's 'Language X'). They had been joined, in the early Rgvedic period, by speakers of Indo-Aryan and, in the later Rgvedic period, by those of early Dravidian (see above).

Dravidian

In the new IA speaking, culturally Vedic "eastern territories" of the Gangetic plains some Drav. words occur for the first time in literature, eg. nIr 'water' in the name of the eastern river sadAnIrA, the modern gaNDak (Witzel 1987), or the verb 'to speak in barbaric fashion', mleccha- ti. However Drav. nIr is not found in the neighboring N.Drav. languages (Malto, Kurukh), but is only found in Baluchistan (Brahui dIr, DEDR 3690). This may be accidental, but it may also indicate that Brahmanical educated speech of the Kuru their IA-Drav. -Munda symbiosis and acculturation had incorporated some Drav. words which appear only now in the texts. The word mlecch has been discussed above. Its appearance in the eastern context is not surprising. From the point of view of the Brahmins, the easterners are 'foreigners', mleccha. The word may at first have designated only the southern (Sindh) foreigners, and later on all others. These central and eastern North Indian territories, however, have no Dravidian names; the river names belong to other substrates.

A study of present and medieval north Indian place names has not been undertaken in earnest. We will have to account for such names as that of the town of goND(A) in Uttar Pradesh, some 180 km north of Allahabad. The name goND appears nowadays only on the Central Indian Vindhya mountains, and is not known in U.P from medieval and

classical sources. (For some supposedly Drav. river names such as *ssdAnIrA* from Drav.*nIr* 'water' see above, and for the *varaNAvaI* at Benares, see Witzel 1999.)

There are, as always, wrong leads, such as the river name *kankai* in the Eastern Nepal Terai, which looks like the Tamil form of the name *gaGga* (Witzel 1993); there are, however, no traces of an earlier S. Drav. occupation in the area. The Dravidian *Kuukh* living in the Terai now have recently been imported as laborers from Central India (K.H. Gordon, *phonology of Dhangar-Kurux*, Kathmandu 1976) where they are known as *Kurukh* or *Oraon*.

For a different view of early Dravidian settlements in N. India, see R. Shafer 1954, Parpola 1994: 168, and Burrow 1973: 386. Burrow points to the fact that most of the Drav. loan words are found in post-RV texts and concludes: "the influence took place in the central Gangetic plain and the classical *madhyadeza*." Therefore, "the pre-Aryan population of this area contained a considerable element of Dravidian speakers." If that had been the case, we would expect some Drav. river names in the Gangetic plains. However, only Munda (and Tib.-Burm.) names are found (Witzel 1999).

\$ 2.4. Substrates of the Lower Gangetic Plains and "Language X"

Next to the Mundas, there must have been speakers of the other languages, such as Tibeto-Burmese, who have left us names such as *kosala*, *kauzikI* (mod. Kosi), perhaps also *kAzi* and *kauzAmbi* (mod. Kosam), from Himalyan *khu*, *ku* (Witzel 1993). In IA they also have left such words as the designations for cooked rice IA **cAmala* and probably also PS *zAli* 'rice'

In Uttar Pradesh and North Bihar (attested in Middle and Late Vedic texts, c. 1200-500 BCE) another apparent substrate appears in which the 'foreign' words do not have the typical Para-Munda structure, with the common prefixes, as described above. Masica (1969) called this unknown substrate "language X". He had traced it in agricultural terms in Hindi that could not be identified as IA, Dravidian or Munda (or as late loans from Persian, S.E. Asia, etc.). Surprisingly some 30% of the terms are of unknown language "X" origin, and only 9.5% of the terms are from Drav., something that does not point to the identity of the Indus people with a Drav. speaking population.

However, only 5.7% of these terms are directly derived from Munda. Obviously, the pre-IA population of the Gangetic plains had an extensive agricultural vocabulary that was taken over into all subsequent

languages. F.B.J. Kuiper has pointed out already in 1955: 137-9 (again in 1991: 1) that many agricultural terms in the RV neither stem from Drav., nor from Munda but from "an unknown third language" (cf. Zide & Zide 1973: 15). This stratum should be below that of Para-Munda which is the active language in the middle and late Vedic texts.

Again, it has been Kuiper who has pointed the way when he noted that certain 'foreign' words in the Vedic substrate appear with geminate consonants and that these are replaced in 'proper' Vedic by two dissimilar consonants (1991: 67). Examples include: pippala RV (1.164.20 22; 5.54.12. su- 7.101.5. guggulu AV, Ps: gugulu KS, TS, kakkaTa PS 20.51.6. KSAzv.: katkaTa TS. Kuiper adds many other cases of Vedic words that can be explained on the basis of words attested later on.

In RV geminates also occur in 'onomatopoetic' words: akhkhall-kR 'to speak haltingly' or 'in syllables?', cf. now Nahali akkal-(kAyni) ' (to cry) loudly in anguish' MT II 17, L 33 (kAyin < Skt. kathayati 'to tell' CDIAL 2703, cf. 38) MT II 17: cf. also jaJjan-RV 8.43.8 etc., ciccika 10.146.2 'a bird'? and cf. also azvattha. 1.135.8: asvatha a personal name, a tree. 6.47.24, with unclear etymology, (Kuiper 1991: 61,68).

Post -RV, new are: hikkA PS 4.21.2, kakkTa PS 20.51.6 (MS kakuTha, TS katkaTa!), KSAzv in YV: kikkiTA KS, TS, kukkuTA VS, pilippilA TS 7.4.18.1, cf. also TS Akkhidant, prakkhidant TS. 4.5.9.2, Ajjya 5.2.7.3.

Especially interesting is the early gemination *dr> 11: kSullka AV 2.32.5, TS 2.3.9.3. kSullaka, < kSudra 'small' (a children's word); later on, among others, bhalla-akSa chU4.1.2. bhalla Br., MBh. (With variants phala, phalla! EWA s.v); JB malla 'a tribe' (in the Indan desert, Rajasthan; cf. DEDR 4730), etc.

Though certain geminates, especially in word formation and flexion (-tt-, -dd-, -nn-, etc), are allowed and common, they hardly ever appear in the stem of a word (Sandhi Cases such as anna, sanna etc. of course excepted). Until the late BrAhmaNa texts, other geminates, especially bb, dd, gg, jj, mm, ll, but also kk, pp, etc., are studiously avoided, except in the few loan words mentioned above (pippala, gulgul, katkaTa etc. (Kuiper 1991: 67 sqq.)

It will be readily seen that Kuiper's seminal observation reflects a tendency that can be observed throughout the Vedic texts. Geminates, especially the mediae, apparently were regarded, with the exception of a few inherited forms such as majj 'to dive under', as 'foreign' of

'barbaric'. They did not agree with the contemporary Vedic (and even own) feeling of correct speech (Sprachgefu"hl).

However, starting with Epic Sanskrit, forms such as galla, mall, palla, etc. are normal and very common (however, -mm-, perhaps regarded as Drav. (?) remains rare); such words, in part derive from normal MIA developmens, in part from the substrate.

This tendency can be sustained by materials from various other sources. In the language 'X' only a few of Mascia's agricultural substrate words that do not have a clear etymology (1969: 135) contain such geminates: Hindi kaith <Skt. kapittha CDIAL 2749 (Mbh), pipIl/pIpIA < pippala (RV), roTI <*roTTA, roTika 10837 (Bhpr.); karela< karella/karavella 3061, khAl < khalla 3838-9 (Suzr.); to these one can add the unattested, reconstructed OIA forms (Turner, CDIAL, see Masica 1969: 136): *alla CDIAL 725, *uDidda 1693, *carassa 4688, *chAcchi 5012, *bAjjara (see, however, OIA *bAjara, 9201 bAjjara HZS: varjarI!). *balilla 9175, *maTTara 9724, *suppAra 13482, *sUjji/sOjji 13552. however, these words have come into NIA via MIA, and that their geminates may go back to a consonant cluster without geminates (see below, on Turner's reconstructs).

All of these tendencies are reconfirmed by what we can discern in the other substrate languages. While there still are but a few cases in the northwest, the substrates located further east and south all have such geminates. (Incidentally, the northwest has retained the original, non-geminate consonant groups, such as -Cr-, to this day, cf. Khovar bhrar, Balkan Gipsy phral 'brother', W.Panj.bhrA, E.Panj. bh.(a) rA: Hindi bhAI etc.).

In the unstudied substrate of ht Kathmandu valley (inscriptions, 467-750 CE, see below), geminates are found in the following place names: gamme, gullataMga, gollaM, jajje-, dommAna, daGkhuTTA-, bema, cf. also bhumbhukkikaA (onomat. With double consonat: <*bhumbhum-ki-kA?); cf. also village names such as joJjon-diG, tuJ-catcatu, thuMtuM-rI, daNDaG- (guM).

In the substrate of modern Tharu: e.g. ge~TTI, ghaTTI, TippA (?), ubbA; cf. also 'onomatopoetic' words such as jhemjhemiyA 'small cymbal or drum', bhubhui 'white scruf', gula-gula 'mild' (with the usual middle Vedic, OIA, Tamil, etc. form of the "expressive" and onomatopoetic words: type kara-kara versus older Vedic bal-bal).

In modern Nahali (Kuiper 1962: 58 sq., 1966) the following substrate words cn be found, though apparently various types of consonant groups are allowed: bekki, beTTo, bokko, coggom, cuTTi,

joppo/jappo, kaggo, kAllen, maikko, oTTi, poyye, unni. Additions to this list can easily be supplied now from that of A. Mundlay (MT II) which are not obviously from NIA include 8 aDDo, 91 attu', 182 bekki, 203 beTTTo, 221 bijjok, 232 biTTThAwI, 255 buddi, etc.

In the Drav. Nilgiri languages (Zvelebil 1990: 63-72) there are a few isolated geminating words that go back to a pre-Drav. substrate, e.g. Irula mattu 'lip', Dekkada 'panther', mutt (u)n 'butterfly', yutta 'crossbar in a house'.

The Vedda substrate contains the same type of words: cappi 'bird', pottu 'a kind of bee', pannu 'worm' (de Silva 1972: 16).

Finally by way of appendix, in the isolated Andamanese language (Aka Blda dialect), a few consonant groups seem to be allowed, but hardly any geminates are found (Portman 1887): dAkkar-da 'bucket' p 18, kAttada, badda 'clab' 22, chetta-da 'fruit' 34 tokko dEIE kE 'to go along the coast', chetta-da 'head' 36, sissnga kE 'to hiss' 38, udda 'maimed' 48, peggi 'many' 48, teggi lik dainga 'noise' 52, teggi lik dainga kE 'to obey' 54, molla da 'smoke' 72, tekke yAbado 'straight' 78.

It can be stated, therefore, that the substrate languages outside of the extreme northwest indicated broad evidence for original geminates. Differently from IA (cf. below, on Turner's reconstructions), these words have not been pushed through the 'filter' of MIA, that means their original consonants clusters have not been 'simplified' (e.g. kt>tt, KS>kkh, etc.) Such striving for simpler syllable structure is known from many languages, e.g. Latin noctem > Italian notte, French nuit [nu't], or O Tib. bgrya> Tib. [yɸ] 'eight', Jpn. -Austro-Thai *krumay>Jpn. kome 'rice' (Benedict). Kathmandu Valley substrate kicpriciG(-grAma)> Newari kisipi-Di, etc. Even then, the tendency seems especially strong in S. Asia and probably has worked on IA from the beginning, as for example in the early example AV kSullaka < kSudraka. In Drav. various consonant groups are allowed, including geminates (Zvelebil 1990: 10 sqq.) e.g., kakku, kaccu, kaTTu, kattu, kammur: (cf. also the interchange p-: -pp-/v-:).

One can therefore put the question whether this old substrate tendency has already influenced the Para-Munda of the RV. In Munda itself, such geminates are very rare (cf. Kuiper 1991: 53), and open syllables are common. However, there is a tendency in the Munda languages to eliminate consonant groups caused by vowel loss in prefixes (Pinnow 1959: 457), this does not cause geminates in such cases but is in line with the similar developments from old to Middle and

New IA (e.g. akSi 'eye' > akkhi> A~kh, rakta 'colored, red' > ratta> rAt, etc.). One may therefore explain many of the 'foreign' words with geminates in Vedic and post-Vedic, excluding Drav. loans, in the same way.

For the same area that is covered by Masica's language "X", and fro N. India in general, one may also adduce the many words in NIA that are not attested in Vedic. Classical Skt. or the various MIA languages such as Pali but that occur only in their NIA form. They have been collected and reconstructed by V. Turner in his CDIAL. These include the starred forms, appearing in their reconstructed OIA form, and those words that do not appear in Ved. but are more or less accidentally attested in late Skt. texts, an the substrate words dealt with by Turner. They have a typical, often non-IA structure, including the very common cluster -ND-, -TT-. Their root structure follows the fololowign pattern. (C= any cosnonat, @any vowel) *C@kkh, C@g, C@gg, C@cc, C@cch, C@jj, C@Jc, C@T, C@TT, C@NTh, C@D, C@DD, C@Dg, C@ND, C@dd, C@n, C@pp, C@mp, C@bb, C@mm, C@r, C@rC, C@l, C@ll, C@v, C@s, C@dd, C@h. In Turner's CDIAL there are only a few forms such as *Cr@k, Cr@c, Cr@NT, Cr@ll, Cl@kk; this does not surprise as all reconstructed words have passed thorough the filter of MIA and have lost such clusters, -- except in the extreme northwest (Lahnda and Dardic).

Double consonants at the end of root may go back to complicated clusters that can no longer be reconstructed, for example *C@kkh < *C@kS (cf. RV kSviGkA, ikSvAku, nad compare Ved. clusters such as matkuNa, matkOTaka, kruJc). Consonant Clusters with various realizations in pronunciation may also be hidden in many Vedic loan words (Kuiper 1991: 51 sqq., Ved. cases p. 67 sqq.).

\$ 2.5. Tibeto-Burmese

Still, this is not all as far as the Gangetic plains are concerred. The eastern section of the North Indian plains (E. Uttar Pradesh and N. Bihar) provides some indications fo Tib.-Burm. Settlements. The name of the Avadh (Oudh) area north of Benares in late Vedic texts is Kosala; this form should not appear in Vedic/Skt.; it should have been *koSala or *kozala (as is indeed found in the Epics). The word clearly is foreign, and should belong, together with the slightly more eastern river name kauzikI (post-Vedic, mod.kosi) to a Tib.-Burmese (TB) language. Such designations for 'river' are indeed found in eastern Himalayish: R. kosi, many Rai river names in -ku, -gu, in medieval Newari (kho, khu, khwa;

ko 'river' in the unpublished Newari amarakoz) and modern Newari (khu, khusi 'streamlet, Creak') in and near the Kathmandu Valley, where it is already found in Licchavi time inscriptions, 467-750 CE, as: cUllM-khu, theG-khu, japti-khU, huDi-khU, pi-khu-, vihliM-kho-srota. ripziM-ko-setu. It is perhaps derived from TB *kluG (details in Witzel 1993).

Perhaps one may add the name of the tribe around Benares (kAzI) whose older, Vedic form is kAzi (AV, still regarded as outsiders to whom one sends one's fever, PS 12.1-2), and its western neighbor, the kUlahabad). R. Shafer (1954) has a host of names, taken from the list of peoples in the much later mahAbhArata Epic that must be taken with caution (readaction only c.500 CE, where even the Huns are included with hUNa, harahUna, - they have become, a Rajput clan!)

Indeed, early evidence for mountain tribes which might have been Tib-Burm. is found in the Vedic texts all along the Himalayas. These mountain tribes, probably of Himachal Pradesh and Western Nepal, lived on the border of the Vedic settlement. They are first encountered in AV (1200 BCE) under the names kirAta, in the western Himalayas where they appear as herb collecting mountain girls (kairatikA kumariKA PS 16.16.4, ZS 10.4.14., kailAta PS 8.2.5). The more eastern text VS 30.16 has them as living in caves; cf. also the popular form kilAta PB, JB, ZB; (for details see Witzel 1993, 199, and cf. KEWA I 211, EWA I 352, and also EWA I 311, s.v. KAR, and Prakrit cilada).

An alternate form of the name, kIra, may have been retained in Kashmir, attested in 550/600 CE (bRhatsaMhitA 14.29). Its name is close to that of the kirAta who are attested in the early inscriptions of Nepal (467 CE sqq.). Hsuan Ts'ang, Hsiyki (c. 600 CE, cf. T. Funayama 1994: 369), however, knows of them as kilito (Karlgren 1923, no. 329-527-1006), a people in Kashmir who had their own king shortly before his time. The -ta/ -Ta suffix is common in many North Indian tribal names (Witzel 1999, cf. above).

Since the RV. Tribal names are found have the suffix -ta/-Ta (Witzel 1999), e.g. kIkaTa, bekanATa (certainly a nonIA name: b-, -T-), maraTA PS 5 .21.3, 12.2.1, kirAta AV, PS, AraT (T) a/ arATTA BZS (cf. Sumer. aratta, an Eastern country, Sistan), kulUTA, kulUta (MBh), kulU-ta (ka), (but also: kolUta, kaulUta, kuluTa, and even ulUTA, see Kuiper 1991: 38 (cf. Pinnow 1959: 198f., cf. S.Le'vy, JA 203, 1923, 52 sqq. = Bagchi 1929: 119 sqq.), finally luLu in W. Pahari, CDIAL 3348, with the typical prefix change of Munda; virAta, a king of the Matysa (MBh) and a country in bRhatsaMhitA, Pkt. VirADa, mod. Berar.

However, names in –ta (and –nda) are restricted of the Himalayan mountains while those with –Ta (and-Nda) occur all over the northern Indian plains (Witzel 1999). As for the origin of the suffix –Ta, compare the plural suffix –To in Nahali (Berger 1959, Mundlay MT II, 1996, 5, cf. Kuiper, 1991: 45 on ‘Dravidian’ –Ta).

Beyond this, the early texts do not allow us to decide on the language and appearance of the kirAta. (The Epic calls them gold-colored). However, MS and ZB list them with the Asura (‘demons’) kilAta-akuli.

Apart from these Vedic sources for (possible) early Tibeto-Burmese, the earliest datable, and so far not utilized evidence is found in Nepalese inscriptions (467 CE+)¹⁶. The inscriptions are in classical Sanskrit, but contain a host of place names, some personal and tribal names, and even a number of non-Sanskritic, traditional local names for government offices which must be considerable older than c. 200 CE.

A note on the transcription of ‘foreign’ words in Sanskrit an in Indian alphabets is in order here. Just as in the case of adaptation of ‘foreign words’ to the Rgvedic phonetical pattern, the local words of the Kathmandu Valley had to be adapted to the possibilities of Sanskrit pronunciation and of spelling them in the Gupta (Nagari style) alphabet.

several vowels are used intermittently: i/e, i/I, u/U/o (also va/o,) R/ri./o [@,o];

there is variation in some consonants as well, notably:

d/D (no retroflex!), tt/D, k/kh, b/bh, 11/1, s/z (no S ?);jJ (common N. Indian pronunciation:gy?); note aspirated m, n, r !hm, hn, hr!. Typical is the spelling of the government office zolla/zulll/zulI or of the name of the town of Bhaktapur in Licchavi inscriptions: khRpuG, khopRG [khɔpriG], (mA-) kho-, > medieval khvapo, khvapva (M), khvapa, khapva, khopva [khopal]) > mod. Khvapyā [khope], (for medieval names see Witzel 1999, 1993). Of importance is a variation (just as in Kanauri) that indicates implosive consonants: co/cok/cokh. – For all such variant spellings in the Licchavi inscriptions, see Witzel 1980: 327, n.60,69, 72 74, 75, 87, 1993: 240 sqq. 248, n. 171-3, and 1993, n. 120, 152.

¹⁶ Now there is one still older inscription which indicates Sanskritization of the valley already around the time of Jayavarman, c. 200 CE (see Kashinath Tamot and Ian Aisop, The Kushan-period Sculpture from the reign of Jaya Varma-, A.D. 185, Kathmandu, Nepal: Asian Art, July 10, 1996, at: www.asianart.com/index.html).

The actual attribution of the locally spoken language and its substrate found in the Licchavi inscriptions remains in the balance. It may be early Newari or a predecessor, the kirAta language of the so-called kirAta dynasty (see below) that reigned in the valley well before 200 CE and has left us with names of government offices such as zulli, kuthera. If it is indeed early Newari, it is a very archaic form, characterized by a large number of initial clusters (Cr-, etc.) which differ even from the oldest attested Newari texts (983 CE.) such consonant clusters are very rare in medieval and certainly in modern Newari.

A clear case for TB is ti 'water'; I have compared (1980 n. 90, n. 94) co (kh)-, bu-, dol/dul, khu, gal/gvala of the Licchavi inscriptions with mod. New. words: -co 'hill, mountain top', mod. New. Cwa, cwak-, cf. Kaiké chwang, Khaling cong; (note also cuk 'mountain range' in Gilyak); - bu, 'land'; O.New. bu/bru, cf. Tamang pU; -gaa '*village? Cf. mod. New. "classifier for round objects, part of Kathmandu", O.New. gvala (M), but note Skt. gola (ka), 'ball, globe'; perhaps cognate with TB (Benedict, 1972: 44) *r-wa/ *g-wa; cf. 91 *wal 'roung'; -ko 'slope kwa, kwaa 'down'; pA-kA 'slope of a hill'; cf. Thakali kho-plen. (K.P. Malla has explained some of such place names as being of Newari origin (1981: 17).

The long list of substrate names includes (place names not specified): aziG-ko (area) (ko 'river? Ko 'slope?'), uTTane, uDra, etaG- (village), kaGku-laM (area) (loan words), kaDam-priG (area) (prig= pRG), kampro-yambI, kambIlampra, kAduG- (village), kuthera- (office), kuhmuM- (area) see hAhmuG), keTumbATa (name of a KirAta official), kozI (river), khaDbraMzai, khArevAlga-co (co, cok 'pass'), khuDU- (diety), khRpuG- (village), khainaSpu (area), kho-pRG- (village.), gamme (area), tuJ-cateatu- (villate), thuMtuM-rI- (fortress), daNDaG-guM, dommAna, panapphu (area), puNDri- (palace), puttI- (river), prayiTtikha (area), proGprovAg, brahmug (office), bhumbhukkikA- (diety), mAp-cok- (office) cf.-co(k/kh) 'pass', yebraMkhara, yogamAcau (watchman), liG-gvala- (office), vottarino?, voddi -(province), zulhmug (office.) zolla, zullI, zullI (office), hasvimavallI- (village), hAhmuG- (place), hnA-guM, hmas-priG- (village), hn-priG,, hrlm-ko (area), and any more.

All these data have not yet been exploited for Tib.-Burm. linguistics. (For place names, see Witzel 1980, 1993; for relations between the eastern Himalayan languages and Munda, s. Kuiper 1962: 42, with Nahali, p. 46f; cf. Laufer 1916-18, 403 sqq.).

The Kathmandu Valley, however, seems to have its own strange substrate, below this Tib.-Burm.level. It is visible in some place names which definitely do not look Tib.-Burm. Some of them are characterized by the geminates studied above: gamme, gullataMga, gollaM, jajje-, dommAna, daGkhuTTA-, bemmAm, cf. also bhumbhukkiKA (onomatopoetic with double consonant < * bhumbhum-ki-kA?)

\$ 2.6. Other Himalayan Languages

D.D. Sharma, Old-Indo-Aryan element in Kinnauri (in: R.K. Sharma et al. (eds.), Dr. B.R. Sharma felicitation Volume, Tirupati 1986. 149-155) describes older elements in the kOchI dialect, spoken in the western part of the former state of Bashahr, along the upper Stalej River. The vocabulary given by Sharma, however, shows traces of OIA, MIA and NIA – as might have been expected. One curious feature of L.Kin. is the division of nouns in animate (suffix -s) and inanimate (suffix -G) which he compares to that of the Munda languages, while he links the endings to OIA masc. -s, neuter-m.

However, his materials represent a mixture of OIA, MIA and NIA forms that have to be separated. Typically, we find OIA kvath 'to boil' preserved as kwath or grAma 'village' as grAma-G (as opposed to NIA gau~/gao~ etc.); next, forms which represent a MIA stage such as sappas 'snake' < sarpa, and NIA forms such as bAyA 'brother' < bhrAtA, tau 'heat' < tApa, dauya-G 'curds' < dadhi, and -G 'food' < anna, or mAma 'maternal uncle'. There are several cases of "gAndhArI metathesis" as well: trAma-G 'copper' < tAmra, cf. gota-N 'cow urine' < gomUtra etc.

The case is of interest as it shows, just as that of early Burushaski, the interaction of plains and mountain people (cf. also, below, on Bangani). The present case also provides some indication of the early date of such interaction between IA and TB speakers; this may be reflected even in AV, if the kriAta indeed are TB speakers, and if the name has not been passed on from an unknown earlier population (cf. the Kashmiri pizAca, nAga traditions, above) to TB speakers.

However that may be, from at least 1100 CE onwards, we see an increasing Aryanization of the western Himalayas and W. Nepal with the spread of the khaza tribe (found already in Manu's law book); by 1150 CE they are still mentioned in the rAjataraGgiNI as settling southwest of the Kashmir valley. Khas kurA is the self-designation of what was called the "language of the Gurkhas" (in Newari called khaMy < khas); they have substituted the name Nepali only in this century. By 1150 CE they had established the W.Nepal/C. Tibetan Malla kingdom;

by 1769 they had conquered the Kathmandu valley; and by 1900 they had settled, mixed with Gurung, Magar, and other TB tribes speaking Nepali as lingua franca, in Darjeeling, Sikkim, S. Bhutan and some parts of Assam. This movement is indicated by their renaming of river names all across the Himalayas (Witzel 1993).

Some part of the Himalayas may also have been occupied by the pre-Tibetan language of W. and Central Tibet, Zhang Zhung. (See the list of Zhang Zhung words), Thomas 1933, C. Beckwith, *The Tibetan Empire in Central Asia*. Princeton University Press: 1987. The history of the settlement of the Himalayas is far from clear. (For some details, based especially on hydronymy, see Witzel 1993, and cf. now van Driem <http://iias.leidenuniv.nl/host/himalaya/>). For example, the thAmi tribe who live higher up in the tAmankosi valley east of Kathmandu belong, as their language shows according to Shafer (1964:3n.1), to the western Himalayish group of the Bodic division of Tibeto-Burmese (Kanauri, etc.). Indeed, the thAmi claim to have immigrated from Humla in northwest Nepal. This is one indication among others (Witzel 1993) that there was a west-east flow of population and languages, similar to the much later one for the Nepali speaking Khas tribe.

The intriguing question of Bangani has not been entirely resolved. Bangani is spoken just east of Kinnauri, in the western-most tip of Garhwal, Uttar Pradesh. Zoller (1988, 1989) has reported a non-IA substrate in this otherwise typical NIA language found high up in the western Himalayas. Surprisingly, this substrate is a strange western variety of IE with words such as *ogno* ~ 'unborn' (not Skt. *a-ja*) and *gNo* 'give birth' (not Skt. *jan*), *kotro* 'fight' (not Skt. *zatu*), *dokro* 'tear' (not Skt. *azru*); the initial *d* is W. IE, cf. Greek *dakru*, Engl. *Tear*, as opposed to E. IE: Skt. *azru*, Avest. *Asru*, Lithuanian *aSara*. This claim has been disputed by G. van Driem (1996, 1997), but has been sustained by research carried out in Bangani by Anvita Abbi of Delhi University (see H. H. Hock [On Bangani] <http://www-personal.unich.edu/~pehook/bangani.html>, with further discussion). Anvita Abbi recognizes three layers in Bangani: words of the type *dokro*, *lokto*, *gosti*, the general NIA 'Pahari' level, and recent loans from Hindi, etc.

In principle, bands or tribes who have 'lost their way' and turn up in unexpected areas are not altogether unknown. Tokharian, the easternmost IE language, has western characteristics (*ka`nt*, *ka`nte* '100') and the North Iranian Alani, ancestors of the Ossetes, traveled all the way through Central Europe, Spain and North Africa with the Germanic Vandals, to settle in Tunisia.

Tib.-Burm. Is. however, not the first language in the Central Himalayas. In Nepal it has been preceded by the isolate of Kusunda, genetically unrelated to other language families just as Burushaski (see below). Kusuna has recently been treated at length in MT II and III (cf. Shafer, 1966: 145; 1954: 10 sqq. The language is reported to have died out by now. It is important to point out the difference between Hodgson's (1848, 1880) and Reinhard's (1969, 1970) Kusuna, a point also mentioned by P. Whitehouse MT III: 31; however, these differences extend beyond the grammatical forms cited to the basic vocabulary, e.g. gipan 'hand' H (Hodgson): Aibi R (Reinhard); ing gai 'star/night' H : sA'nAm R (cf. ing, ing ying 'sun'); jum 'moon' H: niho'R; cf. also smaller variations: toho 'tooth' H: uhu R; gitAn 'skin' H gitat R. It goes without saying that, for a thorough investigation of Kusunda, the loans it has received from Nepali and some of the neighbouring TB languages such as (Kham-) Magari, Gurung, Chepang, Newari, etc. must be taken into account, and that its relation to the nearby substrate in Tharu (and Masica's "Language X") needs to be evaluated.

In passing, the old theory of a Munda substrate in the Himalayas should be revisited. It goes back to S. Konow, On some facts connected with the Tibeto-Burman dialect spoken in Kanawar, ZDMG 59, 1905, 117-125. This has been denied by P.K. Benedict, *Conspectus*, p. 7 n. 23 by J.J. Bauman (1975) *Pronouns and Pronominal Morphology in Tibeto-Burman*; and G. van Driem 1992a, 1993b, 1993f, 1993g, 1994b, 1995a, 1997c, Rutgers 1993, Turin 1998 (see website: <http://ias.ledenuniv.nl/host/himalya/individ/kirmor.html>).

Nevertheless, it must be remembered that the name of the R. gaNDakI can be traced back to Munda. It is found all over Central Nepal, where the major rivers are called "the seven gaNDaki". How far into the Nepalese hills did the settlements of a Munda speaking people reach? Even in exclusively Nepali speaking W. Nepal, the common hydronymical 'suffix' gAD denoting 'river' may be connected with the Munda word da'k, gana'k (Witzel 1993, 1999; further materials in Kuiper 1962: 10, with lit.; and already B.H. Hodgson, comparative vocabulary of the languages of the broken tribes of Nepal, in: *Miscellaneous Essays related to Indian Subjects*, Vol. I p. 161 sqq., London 1880; cf. On the che'pa'ng and Ku'su'nda Tribes of Nepa'l, JASB XVII/2, 1848, p. 650 sqq.).

A further hint may be provided by the implosives found in the substrate of the Kathmandu Valley (cokh/cok/co, see above) and in Kanauri (see Grierson, LSI on Kanauri). We may see here an areal

feature of implosives that has influenced both the Tib.-Burm. Languages in Kinaur (Kanauri) in the western Himalaya and in the Kathmandu Valley. Apart from Munda and Sindhi, this feature is otherwise not found in S.Asia. There are indications in the eastern Hikalayas of a pre-TB population (Witzel 1993). Even today, the Munda languages Saur and Santali are actually spoken in the extreme south-east of Nepal (probably, like the Kurukh, recent imports). Other Munda speakers are, after all, found south of the Ganges, only about a hundred miles south of Eastern Nepal.

Finally, there are the various Tharu tribes who live in the foothills of the Himalayas, from the rAmgaGgA river in U.P. (India) to the eastern border of Nepal, and in some bordering hill tracts, such as in the rAptI Valey (Chitawan, just 50 miles SW of Kathmndu). They practice slash-and-burn agriculture and nowadays speak a form of one of the neighboring NIA languages, just like the Nehali or Vedda (see below); however, I believe that we can find, again, a so far unstudied substrate from a pre-IA, pre-Munda language.

Although often referred to as an archaic, remnant group, they have been little studied (cf. the bibliography in Leal 1972). Some of the vocabulary looks TB: for example TB *ti*-‘water’ in Tharu *suitI* ‘small river.’ (For *-ti* in Himalayan river names, see Witzel 1993). And indeed, D.N. Majumdar, the *Fortunes of Primitive Tribes*, Lucknow 1944 reports blood group types ‘predominantly Mongoliid.’ This is now supported by recent, more advanced genetic studies. The Tharu are very isolate within S. Asia (L.Cavalli-Sforza 1994: 84, 239 with fig. 4.14.1.) As for the suspected substrate, D.Leal, *Chitwan Tharu Phonemic Summary*, Kirtipur Summer Inst. Of Linguistics 1972, provides an example of the influence of their original non-NIA language, i.e the difficulty the Chitaun Tharu have to pronounce aspirated mediae (*bh* > *b* @*h*; cf. above, on the Kathmandu Valley substrate).

The Tharu word list in S.M. Joshi (ed.) *paryAcavAcI zabda kōz*, Kathmandu: nepAl rAjakIya prajJA-pratiSThAn VS 2030 (1974) contains lists of 2914 words, most of which are close to Bhojpuri and Nepali; there are, however, a number of words (cf. Witzel 1999.n. 43) which are neither related to the surrounding IA languages nor to the nearby TB ones (Magar, Chepang, Newari, Tamang) such as: *ubba* ‘small box’, *koGhila* ‘tiger’, *khUdI* ‘sugar cane’, *gukhA* ‘shaman’, *gulagula* ‘mild’, *gÆTTI* ‘splinter’, *JhemjhemiyA* ‘small cymbal or drum’, *TippA* ‘mountain top, (probably NIA), *ta* ‘small’, *tlra* ‘after birth’, *tILvA* ‘whore house’, *nimak* ‘salt’, *bhubhui* ‘white scurf’, *yedi*

'brick'. But the agricultural terms are NIA: bAjrA 'millet', dhAn 'rice', makai 'maize', gehUM 'wheat', as well as most of their basic vocabulary.

All these cases indicate that we probably can discover more substrates if more work along these lines would be done. But we lack etymological dictionaries for most NIA languages (apart from Turner's great work, CDIAL), not to speak of Munda (in preparation by D. Stampe et al.) and TB: (see, however, those on the internet: Starostin et al., accessible from: <http://starling.rinet.ru/>). For example, it may very well be that the Bihari languages have more Tib.-Burmese substrate words. There is, after all, cAmal 'cooked rice' in Nepali, cAwal in Hindi, etc. which can be connected with TB *dza 'to eat', Newari ja 'cooked rice, etc.' Yet, nobody in Indian studies is looking for such substrate material.

\$ 3. Central and South India.

Turning further South, the language isolate Nahali is spoken on the upper TaptI river on the border of Maharashtra and Madhya Pradesh. To be more specific, Nahali nowadays is a NIA language, but it shows below this, at successively lower levels, a Dravidian, a Munda and an isolated level which comprises some 24% of its vocabulary (Kuiper 1962: 51, 1966). The speakers of modern Nahali, to be short, theNahals are the remnant of the first Indian population. At least, they have preserved the remnants of the earliest language spoken in India that we can ascertain so far. Future comparisons may lead us beyond that, for example the proposed comparisons between Nahali and Ainu, or between Andamanese and Papua (Indo-Pacific).

Nahali has been extensively treated in this macro-comparative way in MT II and III. As has been first seen by Shafer and Kuiper, Nahali has connections with Ainu, etc. (for which now see MT II), and thus represents remnants of the earliest substratum of modern homo sapiens, sapiens that moved from the Near East all the way to E.Asia (and S.E. Asia, Australia). However, it must be noted that the retroflex sounds in Australian are a relative new development as well and cannot be the cause of their (almost) Pan-South Asian prevalence in prehistoric times.

Berger (1959) was of the opinion that the Nahals were identical with the well known niSAda of the Chambal, Malwa and Bandelkhand areas. He discussed their mythology as found in the Mahabharata; however the niSAda are found already in the Middle Vedic texts. The nihAl or nAhal are also found (Berger 1959: 35) in many medieval texts.

such as in Hemacandra's Grammar (c. 1200 CE) as lAhala; in Padma Pur.nAhalaka, together with the bhilla, as mountain/jungle tribe; in puSpadanta's harivaMzapurANa as nAhall, synonym of bhilla, savasra (another jungle tribe : modern Saora); also in vikarmaGkadevacaritara of bilhaNa (c.1150 CE), and in rAjazekhara's drama bAlarAmAyaNa (on the R. narmadA). Berger wanted to identify them with the DahAla as well; they are found in inscriptions of the Kalaçuri dynasty of tripurI and in Albiruni (1030 CE). All of their territories are c. 400 km away from the modern eastern Nahalis near Nimar.

He thus derived Nahal/. Nihal from a form such as *nezad reflected by ved. NiSAda. Indeed, the word is found in early post-RV texts: KS, MS, and with the typical sound changes in 'foreign' words: NiSAda: *NISidha: ZB NaDA NaiSidha, (apparently the Vedic 'ancestor' of the Epic Nala NaiSadha: *NiSadha); thus d: dh (as in magadha: pra-magandha, etc) The name certainly is a popular etymology (however, the modern self-designation of the Nahals is kalTo. du. KalTih-Tel. pl.kaliTTa; < stem *kaliT-o, s. Kuiper 1962: 82, 17, 27 Mundlay MT II 5-7, no 858 kalTo, pl. kolTa)

The niSAda are described in Vedic texts (first MS 2.9.5 =KS 17.13, TS 4.5.4.2, VS 16.27) as being neither wilderness (araNya) nor settlement (grAma); > who are given over to the earth:> (asyAm eva samAnajana one's own people> (cf. PB 10.6.7-9); cf. also KB 25.15. LZS 8.2.8., on temporary residence in a naiSAda, among Rudra's names and his people, together with hunters and other low caste people (= KS 17.13, TS 4.5.4.2., VS 16.27); -- AB 8.11 as robbers in the wilderness; similarly the dasyu JB 2.423:\$168, where the text insists on kSatrya accompaniment during travel, necessary to keep the dasyu at bay and turn them sweet (madhu)>, cf. AB 8.11 where the dasyu rob a wealthy man or a caravan in the wilderness. Acculturation is seen at MS 2.24, where their chief (sthapati) is allowed to offer sacrifices, cf. KZS 1.1.12. The inclusion of the headman of the niSAda reflects the well-known process of upward social movement, called Sanskritization. > (Witzel 1997)

Their Vedic designation obviously is a popular etymology "those who sit at home." However, they are more frequently described as robbers (still a favourite occupation for the Nahals in early British times)—against; whom one had to guard when traveling through uninhabited territory. Their chieftains (sthapati), however, were allowed into the Aryan fold and could perform solemn Vedic sacrifices, clearly and early form of Sanskritization.

It may very well be that Rajastani has a strong Bhili (and Nahali) substrate; Koppers (1948: 23, Kuiper 1962, 1966, 1991) and Shafer (1940, 1954: 10) thought that the Bhils once spoke Nahali as well. The Bhils are now widely spread between the arAvLA (Aravalli) Mountains, the Vindhya Mts. And the Tapti River (Khandesh area); they now speak Gujarati-like IA.

In the Vindhyas we find a number of north and central Dravidian languages. However, both North Dravidian languages, Kurukh (Oraon, on the borders of Bihar/Orissa/Madhya Pradesh; the settlement in Nepal and Assam is recent) and Mlato (on the bend of the Ganges in S.E. Bihar) are late-comers to Munda territory as many loans from Munda languages indicates. On the other hand, the third north Drav. language, Brahui, spoken in Baluchistan has returned to E. Iran only a few hundred years ago (Elfenbein 1987); it has no older Iranina loans (from Avestan or Pashto, just from their symbiotic neighbours, the Baluch).

In the Vindhya Mountains we find such names as the following: the Vidarbha people, in the area around Nagpur, (the mod. BarhAD, Berar < virATa, Mbh) are mentioned (JB), along with their fierce mAcala dogs 'that kill even tigers' (note that this is an area with early iron and horses). Vidarbha seems to be a popular etymology vi-darbha 'with widely spread darbha (grass)', especially if connected with Munda da□b 'to thatch' (Pinnow 1959: 69), cf. vi-bhindu in the Gangetic plains (above). The same of the vibhindus is related to that of the bairda trib (derived from *bind) that still survives in the Vindhyas today, and names such as ku-sur (u)-binda (above). The very name of the Vindhya (post-Vedic) can be related, with typical Sanskritizing interchange of d: dh, as in pra-maganda : magadha, (above). East of these mountains, we have the kaliGga (cf. triliGga south of Orissa) and aGga, vaGga. All of these are names that hardly have a Drav. etymology, but which look Austro-Asiatic because of their prefix changes.

However, all round Vidarbha, the first Drav. river names are met with: the pUrNA (<*pEN) west of it, the vEn-gaGga east of it, and the pian-gaGga south of it. They all are adaptations of a Drav. term for rivers, DEDR 4160a * pEN - : *peN-V- 'to twine, twist'. It seems that the area which still has a Munda name in the Vedic middle period (vidarbha) has also received a Dravidian overlay. This is confirmed by Drav. place names in -oli in Maharastra and in-palli, -valli, -pal in Bastar, just east of the Vidarbha area (now southernmost Madhya Pradesh) where they range from 21% in the south to only 0-4% as one

approaches the Raypur plains. The south and southwest of Bastar is occupied by the Drav. Gonds, all other regions by Chattisgarhi Hindi speakers. (For an overview of studies in (South) Indian place names see the paper by M.N.Nampoothiry, *Indian Toponymy*. A critical evaluation of the work done in this field in India with a bibliography in: Puthusseri Ramachandran and K. Nachimuthu (eds.) *Perspectives in Place Name Studies: Proceedings of the National Seminar on South Indian Place Names*, Held at Trivandrum on 21-23 June 1985. A Festschrift to Prof. V.I Subramonian, On His Sixtieth Birth Day. Trivandrum: Place Name Society, 1987, p. 1-47. --including a good bibliography, also of unpublished Indian theses).

The south is frequently supposed to have been Dravidian from times immemorial. However, in the refuge area of Nilgiris with their isolated Drav. tribes (Toda, etc.), we find a substrate, see Zvelebil 1990, 63-70. Isolated words indicating this pre-Drav. substrate (Zvelebil 1990: 69f., Zvelebil 1979: 71f.) include the following Irula words *mattu* 'lip', *D'kene*, *dekene*, *Dekena Dekkada* 'pantehr', *overakaGku*, *OrakaGku*, *ZoraGekui*, *OraGe*, *Orapodu* 'tomorrow' (unless DEDR 707 Tam. *uR2aGku* 'to sleep'), *buNDri* 'grass hopper' (unless DEDR 4169), *muTT* (*u*)*ri* 'butterfly' (unless DEDR 4850 *miTL* 'locust'), *vutta* 'crossbar in a house'. These instances should encourage Drav. specialists to look for substrates in Tami, Telugu, Kannada, etc. However, just like the propagators of indigeneous "Aryans" in the North, Dravidians of the south frequently think that they are autochthonous.

In Sri Lanka, the remnant population of the Vedda now speaks *Sinhlaa*. (De Silva, M.W. *Sugathapala*, *Vedda language of Ceylon; texts and lexicon*. Mu"nchener Studien zur Sprachwissenschaft. Beiheft n.F.7. Mu"nchen: R.Kitzinger, 1972). The substrate that they may have preserved is in urgent need of thorough study, carried out by comparing Pali, Sinhala and Tamil words. Some typical words, interestingly many with geminates, that cannot be linked either to Sinhala or to Tamil are: *cappi* 'bird', *munDi* 'monitor lizard', *potti* 'a kind of bee', *panni* 'worm', *rukula* 'home, cavity' (see de Silva 1972: 16; his vocabulary, pp. 69-96, does not contain etymologies).

Finally there is Andamanese, but unlike the Austro-Asiatic Nicobarese, so isolated that it can only be compared in long-range fashion, with other Austrolo-Pacific languages.

\$ 4. The Northwest

We now return to a region for which we have larger amount of early sources, the Greater Panjab, the area of the first Indo-Aryan influx into the subcontinent as reflected by the hymns of the RV. As has been pointed out, the Rgvedic area is characterized by an almost total substitution of local, pre-IA river names by those of IA type, such as gomati 'the one having cows' (mod. Gomai), mehatnu 'the one full of fluid', asikni 'the black one' (now Chenab). Tribal names, include next to typical IA ones (druhyu 'the cheaters', bharata 'the ones who carry (sacred fire?)', 'many that have no plausible IA etymologies, such as: the gandhari tribe of gandhara, the area between Kabul and Islamabad in Pakistan; zambara, a mountain chieftain; yayyu and prayyu (chieftains on the suvastu, modern Swat); mauja-vant, a Himalayan peak. This kind of evidence indicates the typical picture of an intrusive element, the IA, overlaying a previous population. Unlike Northern America for example, only a few pre-IA river names have survived, such as: kubha (mod. Kabul river), krumu (mod. Kurram), and may be even the sindhu (Indus); these have no clear or only doubtful IA/IE etymologies (see below).

North of this area, at the northern bend of the Indus (Baltistan/Hunza), the language isolate Burushaski is spoken whose prehistory is unknown (cf. now MT II, III). However, the language and the tribal name are indirectly attested in this general area ever since the RV: m/bruza (mod. buruSo) > Ved. mUja-vant, Avestan muza (see below). Indeed, already the RV contains a few words which are still preserved in Bur., such as Bur. kilay, Ved. kilala- 'biestings, a sweet drink' RV 10.91.14, (note AV 4.11.10 next to the loan word kilnaza, see above); kilala cannot have a IA etymology (EWA I 358 'unclear'); continuants are found in the Dardic branch of IA (Khowar kilal), and in Nuristani (kila' etc.), as well as in later Skt. kilata 'cheese', cf. DEDR 1580 Tam. kil~AaN2 'curd'); for details see Kuiper 1955: 150f., Turner, CDIAL 10343 < Ved. maiSiya 'ovine', meSa 'ram' RV; gur 'wheat' pl. guriG/gureG < *ghorum, gurga'n 'winter wheat', cf. Ved. godhuma; bras 'rice', different from briu 'rice (<Shina briu)', cf. Ved. vrhi; bus 'sheaf', CDIAL 8298, cf. Ved. busa, bRsi 'chaff' (cf. Pinnow 1959: 39); ku(h)a' (Berger ghua') 'new moon', cf. Ved. kuhU 'deity of new moon'; ghupas (Berger gupa's) 'cotton', cf. Ved. karpasa, Kashm. Kapas; baluqa 'stone' (in a game), cf. ba'ltaS 'stone thrown at some one', cf. Ved. parazu ' (stone)ax', Greek pe'lekus, see EWA II, 214; baG 'resin of trees', baG ~ IIR bhaGga 'hemp, cannabis', cf. Khowar boG.

Most of the words from IA languages in Turner's CDIAL that have Bur. Correspondences are, however, late loan words from the neighboring Dardic languages, especially from Shina and Khowar (cf. Lorimer 1937, Berger 1959, 1998).

Importantly, in Proto-Burushaski (or in its early loans from the lowlands) and the pre-Vedic Indus languages there is, as treated in § 1.10, there is interchange of k/z, and retention of -an- (not >-o-): Bur. kIlAy : Ved. kIlAla, but Son 'blind one-eyed' : Ved. kAna; ghorō (Berger ghuro) 'stone, pebbles', cf. Ved. zar-kara, cf. also (Witzel 1999) ghoqares, Berger gho'kura.c. 'raven', Ved. kAka; Bur.ghazu 'onion', cf. Ved. lazuna, Shina kazu; ghon, Berger ghu'an 'quail', cf. (?) Ved. laba. It has indeed occasionally been maintained that Burushaski extended into the Panjab in earlier times (L. Schmid 1981, Tikkanen 1988), but the Vedic evidence does not support this, we cannot be sure exactly how far Rgvedic geographical knowledge extended northwards, and how much practical interaction existed between RV and Proto-Burusho people. Yet, the RV knows of some small right side tributary rivers of the Indus that are located north of the confluence with the Kabul River; they have IA names: RV 10.75.6. tRSTAmA '< tRS 'the rough, (or) the dried up (river)', susartu 'the one running well', rasA 'the one full of sap', zvetI 'the white one'.

While it is questionable how far south Burushaski territory extended at this early time, some of the loan words mentioned above indicate that there was early contact. That extends perhaps also to medicinal and other herbs (cf. below on KirAta), for it may be that the name of the BuruSo is reflected by the RV mountain name mauja-vant 'having mUja (people)', cf. the east Iranian equivalent, Avestan muZa. This is the mountain where the best Soma, a hallucinogenic plant, comes from. The RV and E. Iranian (Avestan) forms look like adaptations of the local self-designation, *mruZa, Vedic mUja-, Avest. MuZa, and are attested since the middle of the first millennium in early Tib. Bru-Za, Sanskritized purusa (von Hinüber 1989, 1980), local 10th cent. Inscriptions prUzava (Jettmar 1989: xxxvii), mod. Bur. buruSo.

Phonetic reflexes of Bur. have been (Tikkanen 1988) in the Vedic (and Dravidian) retroflex consonants that have otherwise found a number of explanations, from a Dravidian substrate to an internal East Iranian and Vedic development. The occurrence of these sounds clearly reflects an areal feature that is strongest in the Northwest, but extends all the way to Tamil in the South, and has also influenced Munda to some extent. Below, it will be shown that it is an ancient feature of the Indus languages as well, and that it must not be traced

back to Bur. influence, which seems to have been limited, even in Rgvedic times, to the upper Indus valley.

Some early syntactic influence by Burushaski on Vedic in the formation of the Absolute has been assumed by Tikkanen (1988); it is found already in earliest RV but only as past verbal adverb/conjunctive participle. This clearly S. Asian feature, unknown in the sister language of Vedic, Old Iranian, is also found in various degree in Drav. and Munda, and may have been an early regional feature whose ultimate origin remains unclear (cf. Witzel 1999).

Another modern language in the same area is Khowar which belongs, along with Kashmiri, Swaiti, etc. to the Dardic branch of IA. In its phonetics and vocabulary, however, it shows a strong local substrate, similar to Burushaski. Unique for Khowar, however, is a particular substrate whose origin remains unclear so far. It seems that the Khowars are a late immigrant group who have taken over a Dardic language. Substrate (?) words in Khowar which are neither IA nor Burushaski include (Kuiper 1962: 11, cf. Morgenstierne 1947: 6, Lorimer 1935: xxi): ghec 'eye', apak 'mouth', krem 'back', camoTh 'finger', iski 'heel', askAr 'lungs'. Kuiper (1962: 14) compares ghec 'eye' with Bur. ghai (c) -, gh'I-, ghe-ic- 'to appear, seem, be visible', and with g'e- 'to look, seem, appear', da-g'e- 'to peer' of the Munda language Sora and with Parengi gi- 'to see'. (Differently, Morgenstierne, FS Belvalkar, 2nd section p.91) For Bur. loans in Dardic and in Nuristani see Tikkanen 1988: 305 (cumar 'iron', ju 'apricot', etc.), cf. Fussman 1972 II, 37 sqq.; Lorimer 1939: 95, Morgenstierne 1935: xxi sqq., 1947: 92 sqq., Schmidt 1981, Berger 1998.

The neighboring area, Kashmir, is of great interest. Its prehistory is little known. In the Neolithic, there relations with Central Asia and China, but the influence of the Indus civilization (2600-1900 BCE) is strong and long-lasting; of course, this does not tell us anything about the language(s) spoken then. Unfortunately, the Vedic texts, which know of the neighboring Indus valley do not mention Kashmir by name. It is first mentioned by the grammarian Patañjali (150 BCE). The native Kashmiri texts (rAjataraGgiNI, nIlamata puraANa, cf. Witzel 1994, Tikkanen 1988, L. Schmid 1981), however, know of the previous populations, the PizAca 'ghouls' and the nAga 'snakes' (that can change into human shape at will). These are common names for 'aboriginals'; cf. the Tib.-Burm. Naga tribe on the Burmese border. Yet, these designations may retain some historical memory. The chief of the PizAca is called nikumbha (nikumba in Milindapañho), and the Nagas

have such 'foreign' names such as karkoTa, aTa, baDi, bhabaka, cATara, cikura, Ccukkaka, etc. The list of some 600 Kashmir nAga names in the local nIlamatapurANa contains many such non-Sanskritic names; they have not been studied (see Witzel, in press).

Just as in Northern India and Nepal, most river and place names in Kashmir have been Sanskritized; note, however, the river and place names: ledarI, a river in the SE of the Valley (also in the place name levAra < ledarI-agrahAra); -muSa, a 'suffix' in the names of several villages: khonamuSa (mod. Khunamoh), katImuSa, (mod. Kaimoh, next to lati-kA), rAmuSa (mod. Ramuh); also, the paJcAla-dhAra mountain, (mod. Plr) pantsAl range, south of the Valley), may reflect an old name, cf. the Ved. tribal name paJcAla, and Grierson, Dict. Of Kashmiri III: 744; cf. Nepali himAl 'Himalya range'. CDIAL 14104, Such names havenot been studied in detail (cf., however, L. Schmidt 1981, Witzel 1993).

Like all other Indian languages, the Kashmiri language itself has not been thoroughly scrutinized for more substrate materials, cf., however, the report by L. Schmidt (1981), who assumes that 25% of the vocabulary and toponymy belong to a pre-IA substrate. A Parpola (Tikkanen 1988: 305) thinks of a Proto-Tib. Or Sinitic substrate. However, the peculiar phonology of Kashmiri (and Dardic in general) sustains the assumption of a strong northwestern substrate influence.

In the northwest another Ilr. language which share some regional peculiarities with Dardic, is spoken: Nuristani or Kafiri, as it was formerly called, is (differently from the older handbooks which lump it together with the Dardic branch of IA) a third branch of th Indo-Iranians (G. Morgenstierne, Irano-Dardica. Wiesbaden 1973). It has survived in the mountains of East Afghanistan and in neighbouring Chitral (N.W. Pakistan). The Kalasha (Chital) subgroup have even preseverd their ancient non-Hindu and non-Iranina religion. Nuristani has preserved such sounds as Ilr. c.' that has been changed even in the RV> z (c.1500 BCE) and in Old Iranian> s. It has transmitted at least one loan word into Vedic, Nur.*kat 'S' a> Ved. kAca 'shining piece of jewelry' (K. Hoffmann 1986, EWA I 335).

Finally, one must be open to assume the influece of other substrate language in the Hindukush/Pamir areas. There are local personal names scuh as RV Zambara Kaulitara and his father *Kulitara who are ' in the mountains', prayiya and vayiu in Swat; names of demons (as always, intentionally confued with those of real, human enemies) such as cumuri, namuci, uraNa, arbuda, pipru, zambara; tribal names such as

gandhAri. dRbhIka(?), vare-in (?); river names such as kubhA, krumu, sindhu (?). Note also that the Avesta (Videvada 1) speaks about some of these areas, notably var@na (varNu) as an –airiia “non-Aryan”.

§ 5. Indo- Iranina substrates from Central Asia and Iran

Beyond this area, Central Asia must have been the source of a host of unstudied words in Proto-IIr., which are found both in IA and Old Iranian but which do not have an IE etymology and must represent the language of the Bactria-Margiana region (BMAC culture 2100-1900 BCE), or other Central Asian substrate(s). They include plants, animals, and material culture; their concentration in the area of brick-built settlement and agriculture as well as some newly introduced animals should be noted. Such words, as found in Ved. /Avestan, include:

uSTra/ uStra ‘camel’, middle and new Akkadian udru “Bactrian camel” is a loan from Iran, see EWA I 238, KEWA III 652, cf. Diakonoff in JAOS 105, 1085, 600; the camel was introduced into the BMAC area from Central Asia only in the late 3rd mill.BCE.

khara/ xara ‘donkey’, cf. Toch.B.ker-ca-po <* karca-bha?, with the common Iranian animal suffix –bha (as in garda-bha, zara-bha, Rsa-bha); the word ultimately may be a late 3rd mill. Near Eastern loan, cf.. Akkad. (Mari) HArum. ajarum ‘male donkey’, EWA I 447. Note also the overlap with Dravidian (denied by EWA 473): Drav. *garda> Tamil kal utai, etc., one of the few possible links of a Central Asian substrate with Dravidian (and with Vedic);

iSTi, iSTikA/iStiia ‘brick’, z@mOiStuua ‘clay brick’; OP. iSTi, MP., NP.xiSt; cf. Toch. Izcem ‘clay’? clay bricks are unknown in northern Central Asia (Kazakhstan), the putative homeland of IIr (except for their sudden appearance in the Sintashta Culture east of the Urals, c.2000 BCE, for which a link with the BMAC has been supposed);

sthUna/stUnA, stunA, OP. stUnA ‘pillar’, unless it belongs to Ved. sthUra ‘tall, thick’. Avest.-stura, Khot.stura (thus EWA II 768);

yavyA/O.P. yauviyA ‘channel’, > MP., NP.jO, jOy ‘stream, channel’, Parachi ZI ‘rivulet’, EWA II 405; both words, typical for loans, do not back to exactly the same source;

godhUma/gantuma ‘wheat’ from a Near Eastern language, cf. Semitic *HnT, Hitt. Kant (EWA 499) and Egyptian xnd;

parSa/parSa ‘sheaf’, see EWA II 101;

blJa / OIran. *bIza (in names), ‘seed, semen’, Buddh. Sogdian byz’k, Parachi blz ‘grains’;

zaNa/kana- 'hemp', MP. San 'hemp', khot. KaMha, Osset. g□n, g□n□, Russ.Church Sl. Konoplja, Gr. Ka'nnabis, itself a loan from Scythian, as also also old High German hanaf, Dutch hennep <*kanap;

bhGga/banga 'hemp.hashish', if the word does not belong to bhaJj 'to break,'

*sinSap 'mustard': Ved. saSarpa 'mustard', Khot., zzazvAna, Parthian Syfs-d'n, Sogdian SywSp-dhn, MP. span-dAn 'mustard seed'; Greek si'napi' < pre-Iran. ** sinasap (Henning slens2ap); cf. also: Malay sawi, s@ sawi, or Austro-As. *sapi, Sv(r)-sapi; further EWA 712, 727: ziMza'pA RV+ 'Dalbergia sissoo' NP. SISam, Pashto S@wa <*zISampA, CDIAL 12424), Elam. Se-iS-Sa'-ba-ut = /SeSSAP/;

kazyapa/kasiiapa 'turtle', Sogdian kysph, NP. KaSaf, kaS (a) p 'tortoise'; cf. Kashaf Rud, a river in Turkmenistan and Khorasan;

pard/pandh 'spotted animal, panther': Ved. pRdAku 'snake' RC, pRdakU Avn pRdAkhu BZS (EWA II 163), with Para-Munda prefix p@r?; khowar purdu m< pRdhUma? KEWA II 335, CDIAL 8362; Bur. (Yasin) phu'rdu 'adder' snake'; later Skt. 'tiger, panther'; NP. Palang 'leopard' < O. Iran. *pard-, Greek pa 'radalis, pa'rdos, le'o-pardos 'leopard, (EWA II 163), all < ** pard 'spotted, wild animal?'; Henning reconstructs ** parth (but note Greek pa'nthEr), which may have been close to the Central Asian form;

*kar (t) ka 'rhinoceros', Ved. khDga 'rhinoceros' MS+, EWA 443, cf. N.P.karka-dAn, Arab. karkaddan, Aelianus karta'zOnos (*kargazOnos) 'Indian rhinoceros', all from a pre-Aryan source; however, cf. Kuiper 1948: 136 sqq.

bheSaja /baEsaziia 'healing'; Iir * bhiS-aj > Ved. bhiS-aj; the root *bhiS maybe a loan word (cf.EWA s.v);

vInA 'lute': Ved. vINA Khot. BIna 'harp, lute', Sogdian wyn 'lute', MP. Win 'lute', Armen.vin 'lute', unless loans from India, cf. EWA II 568;

*kapauta 'blue,: Ved. kapota 'pigeon, O.P kapuata 'blue'; khot.kavUta 'blue, MP kabOd 'grey-blue', kabOtar 'pigeon'; EWA I 303, Kuiper 1991;

*kadru 'brown': Ved. kadru 'red-brown', kadrU 'a snake deity', Avest. Kadruu.aspa 'with brown horses, NP. Kahar 'light brown,; The following words may be of still older origin and may have been taken over either in E. Europe or in Northern Central Asia:

*medh/melit 'sweet, honey': IE. medhu 'sweet' is found in Ved. Madhu 'sweet, honey ,mead', Avest.madhu, Sogd. mdhw 'wine', (cf.

Bur. mel 'wine, from grapes') Toch. B mit 'honey, Gr. Me'thu 'wine' etc.; it has spread to Uralic mese, mete; Finish mete, Hungarian me'z 'honey, Chin mi < miet, Sine- Korean mil, Jpn., < * mit (u); Iran * madhu > Turkish, Mongolian bal 'honey'; Arabic mAdI?, and to >Toch. B mot 'intoxicating drink'. --- From another source * * melit, Greek me'lit-, Hitt, milit, Latin mel, mell-, Gothic milith; in Nostratci (Illich – Svitych, Opyt II, Moskava 1976: 38sq.) both forms are united under * majLa > * Ural. Majdh 'a', Drav. maTT, miTT, Altaic /m/ ala, bhala; cf. also, still further afield, in Polynesia: Samoan meli, Hawaiian mele, meli; mele, melemele 'yellow', Maori miere; Tongan melie 'sweetness, sweet, delicious', Rarotonga meli 'honey', Mangareva mere 'honey'.

* sengha/singa 'lion': Ved. siMha 'lion' < * sinj'ha < * sing'ha differs from Proto-Iran. *sarg: Khorasmian sargh, Parthian Sarg, Khot. Sarau; Henning reconstructs ** sleNgha; -- loans into nearby languages. scuh as Toch. A ziza''k, B zecake 'lion'; Tib. SeGge, Chin. * suan-gei (Henning, EWA), note, however, Karlgren 1923, no. 893 Arch. Chin. *, Si, Jpn. * si> shi (-shi); cf. perhaps Armenian inc, inj EWA II 727, EWA II 447; the western IE languages have received the 'lion' word from a different sources, Gr. IIs, leon (t) -, Lat. Leon-.

In short, western and central Iran must have been inhabited by (archaeologically well attested) peoples of non-IIr speech. However, their languages have left few remains in Iranian. Apparently, Elamian was spoken up to simSki (Kerman/Banar Abbas area), while aratta (Sistan) and marhSi (W. Baluchistan, Bampur region) apparently had other languages (s), (Vallat 1980). All of these data need to be studied in greater detail, especially the early IIr substrate language (s).

§ 6. Conclusions.

In short, the early linguistic picture of South Asia in the second and first millennium BCE, during the Indus and Vedic periods, is as complex as, or even more so than its modern counterpart. The materials adduced above also indicate that, even with the additi

ABBREVIATIONS

Note: for ready reference, the five historical levels of Vedic are indicated by numbers (1-5), followed by their geographical location: W: western North India = Panjab, Haryana, C: central North India = Uttar Pradesh, E: eastern North India = N. Bihar; S: southern N. India = between the Jamna/Ganges and the Vindhya mountains).

AA	Austro-Asiatic
AB	aitareya brAhmaNa (4,W &E)

Akkad.	Akkadian
ApDhs	Apastamba dhramasUtra (5 C)
ApZS	Apastamba zrautasUtra (5 C)
Armen.	Armenian
Austro-As.	Austro-Asiatic
AV	athrvaveda saMhitA (2 C)
Avest.	Avestan
AVP	athrvaveda saMhitA, paippalAa version (2 W)
Beng.	Bengali
Brah.	Brahui
BZS	baudhAyana zrautaUtra (4-5 C)
Bur.	Burushaski
CDIAL	Turner 1966-69
DED	Burrow, T. and Emeneau M.B. 1960
DEDR	Burrow, T. and Emeneau M.B. 1984
Drav.	Dravidan
Ep.	Epic Sanskrit
EWA	Mayrhofer 1956-76
Gr.	Greek
GS	gRhyasUtra (s) (5)
Guj.	Gujarati
Hitt.	Hittite
HZS	HiraNyakezi ZrautasUtra (5 C)
IA	Indo-Aryan
IE	Indo-European
IIr	Indo-Iranian
Indo-AR.	Indo-Aryan
Iran.	Iranian
JB	jaiminIya brAhmaNa (4 S)
Jpn.	Japanese
Kan.	Kannada, Canarese
Kazm.	Kashmiri
KaThA	kaTha ?AraNyaka (4 W)
KauzS.	Kauzika sutra (5C)
KB	kauSitaki brAhmaNa (4 C)
KEWA	Mayrhofer 1986-96
Khar	Kharia
Khot.	Khotanese Saka
KS.	KaTha saMhitA
KZS	kAtyAyana zrautasUtra (5 E)

Kur.	Kurukh
LZS	LATyAyan a ZrautasUtra
Lit.	Lithuanian
Mal.	Malayalam
Mar.	Marathi
Mbh.	MahAbhARata
MIA.	Middle Indo-Aryan
MP.	Middle Persian
MS.	MaitrAyaNi saMhitA (2-3 W)
MT	Mother Tongue
Mund.	Mundari
Nep.	Nepali'
New.	Newari
NP.	New Persian
NIA	New Indo- Aryan
Nir.	Nirkta (5)
Nur.	Nuristani (Kafiri)
OP.	Old Persian
O.Pers.	Old Persian
Osset.	Ossetic
Panj.	Panjabi
Pkt.	Prakrit
Ps.	PaippalAda saMhitA (2 W)
PSK.	PaippalAda saMhitA, Kasmir Ms.
RV.	Rgveda saMhitA (1, Greater Panjab)
RVKh	Rgveda khila (2 W)
SaDVB	SadviMza brAhmaNa (4 W)
SaMh.	SaMhitA (s)
Sant.	Santali
zA	zAGkhAyana AraNyaka (4 C)
SB	SaviMza brAhmNa
ZB	zataptha brAhmaNa (4E)
ZBK	zatapatha brAhmaNa, kANva recension (4 C)
ZS	zrautasUtra (5)
Skt.	Sanskrit
Sum (er).	Sumerian
SU.	SUtra (s) (5)
Suzr.	Suzruta
SV	SAmaveda saMhitA (2 W)
Suzr.	Suzruta

StII	Studien zur Indologie und Iranistik
TA	taittirIya AraNyaka (4 C)
Tam.	Tamil
Tel.	Telugu
TB	taittirIya brAhmaNa (4 C)
TB	Tibeto-Burmese
Tib	Tibetan
Tib.-Burm.	Tibeto-Burmese
Toch.	Tocharian
TS	taittirIya saMhitA (2 C)
Up.	UpaniSad (s) (4)
V.	vIdEvdhA (Vendidad
VAdhB	vAdhUla brAhmNa (anvAkhyAna) (4 C)
Ved.	Vedic
Ved.	Index Macdonell –Keith 1912
VS.	vAjasaney saMhitA (2E)
YV	yajurveda (-saMhitA) (2)
ZDMG	Zeitschrift der deutschen morgenländischen Gesellschaft

BIBLIOGRAPHY

- Allchin, F.R. & Hammond, N. 1978. *The Archaeology of Afghanistan from the earliest times to the Timurid period*. London, New York: Academic Press.
- Allchin, F.R. 1995. *The Archaeology of Early Historic South Asia. The Emergence of Cities and States*. With Contributions from George Erdosy, R.A.E. Coningham, D. K. Chakrabarti and Bridget Allchin. Cambridge: Cambridge University Press.
- Bagchi, P.C. 1929. (ed.), *Pre-Aryan and Pre-Dravidian in Sanskrit*. Calcutta: University of Calcutta.
- Bartholomae, Christian. 1961. *Altiranisches Wörterbuch*. repr. Berlin.
- Beckwith, C. 1987. *The Tibetan Empire in Central Asia*. Princeton University Press.
- Bedigian, D. & Harlan, J.H. 1985. *Evidence for the cultivation of sesame in the ancient world*. Economic Botany.
- Bellezza, J.V. *New Archeological Discoveries in Tibet*. Asian Arts, 12/17/98, at: www.asianart.com/index.html.
- Benedict, P. K. 1972. *Sino-Tibetan. A Conspectus*. Cambridge.
- , 1990. *Japanese/Austro-Thai*. Ann Arbor: Karoma.

- Bengtson, J. Nihali, & Ainu. 1996. MT II, 51-55.
- Berger, H. 1959. "Deutung einiger alter Stammesnamen der Bhil aus der vorarischen Mythologie des Epos und der PurANa". WZKSOA 3, 34-82.
- . 1963. Review of: K.H. Pinnow, "Versuch einer historischen Lautlehre der Kharia-Sprache". (Wiesbaden 1959), ZDMG 112, 416-421.
- . 1998. "Die Burushaski-Sprache von Hunza und Nager. Wiesbaden: Harrassowitz".
- Bhattacharya S. 1996. *Some Munda etymologies*, in: N. H. Zide (ed.), *Studies in Comparative Austroasiatic Linguistics*. London, The Hague: Mouton, 28- 40.
- Bista, D.B. 1976. *Encounter with the Raute: The last hunting nomads of Nepal*. Kailash 4, p. 3170327.
- Blažek, V. & Boisson, C. 1992. *The Diffusion of Agricultural Terms from Mesopotamia*. *Archi'v Orientalni* 60, 16-3.
- Bomhard, A. 1997. "On the Origin of Sumerian". MT III, 75-92.
- Burrow, Th. 1945. "Some Dravidian words in Sanskrit". *Transactions of the Philological Society*, 79-120.
- . 1946. "Loanwords in Sanskrit". *Transactions of the Philological Society*, 1-30.
- . 1947-48. "Dravidian Studies VII: Further Dravidian Words in Sanskrit". *Bulletin of the School of Oriental and African Studies* 12, 365-396.
- . 1955. *The Sanskrit langaute*. London: Faber and Faber.
- . 1958. *Sanskrit and the pre-Aryan Tribes and Languages*. Bulletin of the Ramakrishna Mission Institute of Culture, Transact. 19.
- , *The Sanskrit Language* (3rd ed.) London.
- . 1976. *Sanskrit words having dental-s- after I, u, and r*, In: A. M. Davies and W.Meild. *Studies in Greek, Italic, and Indo-European linguistics*. Offered to Leonard R. Palmer on the occasion of his seventieth birthday, June 5, 1976. Innsbruck: Inst. F. Sprachwissenschaft d. Univ., 33-41.
- & Emeneau, M.B. 1960. *A Dravidian Etymological Dictionary* oxford: Clarendon Press.
- . 1984. *A Dravidian Etymological Dictionary*. Second Edition. Oxford: Clarendon Press.
- . 1962. *Dravidian Borrowings from Indo-Aryan*. Berkeley: University of California Press.
- Cavalli-Sforza, L.L. Menozzi, P. Piazza, A. 1994. *The history and geography of human genes*. Princeton: Princeton University Press.

- Cavali-Sforza, L.L. & F. 1995. *The Greek Human Diasporas. The History of Diversity and Evolution*. Reading MA: Helix Books.
- Crooke, W. 1906. "The Tribes and Castes of the North-west provinces and Oudh". Calcutta: Office of the Superintendent of Government Printing.
- Dani, A.H. & V.M. Masson. 1992. *History of civilization of Central Asia. Volume I. The dawn of civilization: earliest times to 700 B.C.* Paris: Unesco Publishing, 357-378.
- Das, R. P. 1995. "The hunt for foreign words in the Rgveda" *IJ* 38, 207-238.
- Deshpande, M.M. & Hook, P.E. 1979. (eds.). *Aryan and Non-Aryan in India*. Ann Arbor: Center for South and South-East Asian Studies, University of Michigan.
- De Silva, Sugathapal, M.W. 1972. "Vedda language of Ceylon: texts and; lexicon. Mu"nchener Studien zur Sprachwissenschaft", Beiheft n.F. 7. Mu"nchen: R. Kitzinger.
- Diakonoff, I.M. 1985. "Hurro-Urartian Borrowings in old Armenian". *JAOs* 105, 597-604.
- . 1997. "External Connections of the Sumerian Language". *MT* III, 54-62.
- Ehret, Christopher. 1988. "Language change and the material correlates of language and ethnic shift". *Antiquity* 62, 564-74.
- Ellenbein, J.H. 1987. "A perilous of the 'Brahui problem". *Studia Iranica* 16, 215-233.
- Emeneau, M.B. 1956. "India as a linguistic area". *Language* 32, 3-16.
- , & Th. Burrow. 1962. *Dravidian Borrowings from Indo-Aryan*. Berkeley: University of California Press.
- Erdosy, G. 1995. (ed.) *The Indo- Aryans of Ancient South Asia. (Indian Philology and south Asian Studies, A. Wexler and M. Witzel, (eds.), vol. 1. Berlin/New York : de Gruyter.*
- Fairservis, W.A. 1992. *The Harappan Civilization and its Writing. A Model for the Decipherment of the Indus Script*. New Delhi: Oxford.
- . 1995. *Central Asia and the Rgveda: the archaeological evidence*. In: G. Erdosy (ed.) *The Indo-Aryans of Ancient South Asia* Berlin/New York: de Gruyter, 206-112.
- . 1997. *The Harappan Civilization and the Rgveda*. In: M. Witzel (ed.) *Inside the texts. Beyond the Texts. New Approaches to the Study of the Vedas*. Harvard Oriental Series, Opera Minora 2. Cambridge, 61-68.

- Funayama, T. 1994. *Remarks on Religious Predominance in Kashmir; Hindu or Buddhist?* In: Y. Ikari. *A study of the Nilamata*. Kyoto. 367-375.
- Fussman, G. 1972. *Atlas linguistique des parlers dardes et kafirs*. Paris.
- Gardner, J.R. 1998. *The Developing Terminology for the self in Vedic India*. Ph.D thesis, Iowa U.
- Gardner, P. 1980. "Lexicostatistics and Dravidian Differentiation in situ". *Indian Linguistics* 41, 170-180.
- Gening, V.F. 1977. "Mogil'nik Sintashta I problema rannikh Indoiranskikh plemen". *Sovietskaya Arkheologiya* 53-73.
- Glover, L.C. and Higham, C.F.W. 1996. *New evidence for early rice cultivation in South, Southeast and East Asia*. In: D.R. Harris (ed.). *The origins and spread of agriculture and pastoralism in Eurasia*. London: UCL Press: 413-441.
- Gordon, K.H. 1976. *Phonology of Dhangar-Kurux, Kathmandu*.
- Grierson, G. 1967. *Linguistic Survey of India*. Calcutta: office of the superintendent of government printing, India 1903-22 (repr. Delhi).
- Haudricourt, A.G. 1964. "Dahque (Daic)" In: *Shafer*, 453-525.
- Heine-Geldern & Das, R. 1964. *Dravidaproblem*. *Anzeiger der O"sterreichischen Akademie der Wissenschaften*, Jg. no. 9, wien 1964: H. Bo"hlhaus, pp. 187-201.
- O.v. Hinu"ber, 1980. *Die Kolophone der Gilgit-Handschriften, Studien zur Indologie und Iranistik* 5/6, 49-82.
- . 1989. *Brahmi inscriptions on the history and culture of the upper Indus valley*. In: K. Jettmar et al., *Rock Inscriptions in the Indus Valley. Antiquities of Northern Pakistan. Reports and Studies, Vol. 1*. Mainz: Philipp von Zabern: 41-72.
- Hock, H.H. 1975. "Substratum influence on (Rig-Vedic) Sanskrit?" *Studies in the Linguistic Science* 5, 76-125.
- , [on Bangani] <http://www.personal.unich.edu/~pehook/bangani.html>.
- Hodgson, B.H. 1848. "On the Che'pa'ng an Ku'su'nda tribes of Nepa'l". *JASB* 17, 650-58.
- , 1880. *Comparative Vocabulary of the languages of the broken tribes of Ne'pal*, *JSAB* 22, 317-427 – B. H. Hodgson, *Miscellaneous Essay relating to Indian subjects*. Vol. 1. London: Tru"bhner 171-175.
- Hoffmann, Karl. 1941. "Die alt-indoarischen Wo"rter mit-ND-, besonders im Rgeveda". Ph. Diss. Mu"nchen.
- . 1975-76. *Aufsa"tze zur Indoiranistik*. (ed.J. Narten vols. 1-2) Wiesbaden.

- . 1992. Aufsatz "tze zru InIranistaik. (ed. S. Glauch, R. Plath, S. Ziegler, vol. 3). Wiesbaden.
- Illich-Svitych, V.M. 1976. *Opyt sraveniya nonstricheskikh yazykov*. II. Moskva: Nauka.
- Iyer, L.V. Ramaswamy. 1929-30. "Dravidic place names in the plateau of Persia". *Quarterly Journal of the Mythic Society of India* 20, 49-53.
- Jarrige, J.F. 1985. *Continuity and Change in the North Kachi Plain (Baluchistan, Pakistan) at the Beginning of the Second Millennium B.C.*, in: *South Asian Archaeology 1983*, ed. J. Schotsman and M. Taddei. Naples: Istituto Universitario Orientale, pp. 35-68.
- Jettmar, K. et al., 1989. *Rock Inscriptions in the Indus Valley. Antiquities of Northern Pakistan. Reports and Studies*, vol. 1. Mainz: philipp von Zabern.
- Jørgensen, H.A 1936. *Dictionary of the Classical Newari*, København.
- Joshi, S.M. (ed.) 1974. *ParyAcavAcI zabda Koz*. Kathmandu: Neapal RajakIya PrajJA-PratiSThAn VS 2030.
- Kajale, M.D. 1991. *Current status of Indian palaeo ethnobotany: introduced food plants with a discussion of the historical and evolutionary development of Indian agriculture and agriculture systems in general*. In: J. Renfrew (ed.) *New Light on Early Farming*. Edinburgh: Edinburg University Press, 155-189.
- Karlsen, B. 1923. *Analytical Dictionary of Chinese and Sino-Japanese* Paris.
- Kenoyer, J.M. 1998. *Ancient Cities of the Indus Valley Civilization*. Oxford: Oxford University Press/American Institute of Pakistan Studies.
- Konow, S. 1905. "On some facts connected with the Tibeto-Burman dialect spoken in Kanwar". *ZDMG* 59, 117-125.
- Koppers, W. 1948. *Die Bhil in Zentralindien*. Horn: F. Berger.
- Krauskopf, G. 1989. *Mattres et posse'de's: Les rites et l'ordre social chez les Tharu (Ne'pal)*. Paris: Editions du Centre National de la Recherche Scientifique.
- Krishnamurti, Bh. 1968. *Dravidian personal pronouns*, *Studies in Indian Linguistics*, Poona and Annamalainagar. 189-205.
- Krishnamurti, Bh. 1985. *Comparative Dravidian Studies since Current Trends 1969*. In: V. Z.Acson and R.L. Leed (eds.), *For Gordon Fairbanks*. Honolulu: Univ. of Hawii Press, 212-231.
- Kuiper, F.B. J. 1931. "Beitröge zur altindischen Wortforschung. tülau Geklatsch". *Zeitschrift für Indologie und Iranistik* 8, 250-251.
- . 1939. Ai. "MandAkinI 'EN. Verschiedener Flu'see". *ACTA Orientalia* 17, 17-20 = 1997: 3-6.

- . 1948. *Proto-Munda words in Sanskrit*. Amsterdam: Noord-Hollandsche Uitgevers Maatschappij.
- . 1950. *An Austro-Asiatic myth in the Rv*. Amsterdam: Noord-Hollandsche Uitg. Mij.
- . 1967. "The Genesis of a Linguistic Area". *IJJ* 10, 81-102.
- . 1948. *Proto-Munda words in Sanskrit*. Amsterdam.
- . 1955. *Rigvedic loan-words*. In: O. Spies (ed.) *Studia Indologica*. Festschrift für Willibald Kirfel zur Vollendung seines 70. Lebensjahres. Bonn: Orientalisches Seminar.
- . 1962. *Nahali, A comparative Study*. Amsterdam.
- . 1966. *The sources of Nahali vocabulary*. In: N.H.Zide (ed.), *Studies in Comparative Austroasiatic Linguistics*. The Hague 96-192.
- . 1991. *Aryans in the Rigveda*, Amsterdam-Atlanta: Rodopi.
- . 1995. "On a Hunt for 'Possible' Objections". *IJJ* 38, 239-247.
- . 1997. *Selected writings on Indian Linguistics and Philology*. A Lubotsky, M.S. Oort and M. Witzel (eds). Amsterdam-Atlanta: Rodopi.
- Laufer, B. 1916-18. Loan Words in Tibetan, *T'oung Pao* 17, 403 ff.
- Leal, D. 1972. Chitwan Tharu phonemic summary. Kirtipur: summer Inst. Of Linguistics.
- Le'vy, S. 1929. "Pre'-Aryen et pre'-Dravidien dans l'Inde". *Journal Asiatique* 203, 1923, 1-57 [transl. in: Bagchi, 63-126].
- Littauer, M. & Crouwel, J.H. 1979. *Wheeled vehicles and Ridden Animals in the Ancient Near East*, Leiden : Brill.
- Lorimer, David L.R. 1935-38. *The Burushaski language*. Oslo :H. Aschenhoug.
- , 1937. "Burushaski and its alien neighbours: problems in linguistic contagion". *Transactions of the Philological society*, 63-98.
- Majumdar, D.N. 1944. *The Fortunes of Primitive Tibet*. Lucknow.
- MacDonell, A.A. & Keith, A.B. 1967. *Vedic Index of Names and Subjects*, Delhi [repr. of 1912].
- Malla, K.P. 1981. "Linguistic Archaeology of the Nepal Valley. A Preliminary Report". *Kailash* 8, 5-23.
- Manandhar, Th.L. 1986. *Newari-English Dictionary*. *Modern language of Kathmandu Valley*, ed. By Dr. Anne Vergati. Delhi: Agm Kala Prakashan.
- Masica, C.P. 1971. *Defining a Linguistic Area. South Asia*. Chicago: The university of Chicago Press.
- . 1979. *Aryan and non-Aryan elements in North Indian agriculture*. In M. Deshpande. P.E. Hook (eds.). *Aryan and Non-Aryan in India*.

- Ann Arbor: Center for South and Southeast Asian Studies, University of Michigan, 55-151.
- Mayrhofer, M. 1956-1976. "Kurzgefasstes etymologisches Wo'rterbuch des Altindischen". Heidelberg (KEWA).
- . 1986-96. Wo'rterbuch des Altindoarischen. Heidelberg (EWA).
- . 1968. U"ber den spontanen Zerebralnasal im fru"hen Indo-Arischen. In: *Me'langes d'Indianisme*. Fs. Renou, Paris, 509-517.
- McAlpin, David W. 1975. "Elamite and Dravidian: Further evidence of relationship". (with discussion by M.B. Emeneau, W.H. Jacobsen, F.B.J.Kuiper, H.H. Paper, E. Reiner, R. Stopa, F. Vallat, R.W. Wescott, and a reply by McAlpin). *Current Anthropology* 16, 105-115.
- . 1979. *Linguistic prehistory: the Dravidian situation*, in Deshpande and Hook 175-189.
- . 1981. "Proto-Elamian-Dravidian: the evidence and its implications". *Transactions of the American Philosophical Society*, 71. Philadelphia.
- Meadow, R. 1998. "The Transition to Agriculture in the Old World. The review of Archaeology" (special Issue ed. By Oter Bar-Yosef) 19, 12-21.
- Morgenstierne, G. 1935. Preface to Lorimer, vii-xxx.
- . 1947. Notes on Burushski phonology. *Norsk Tidskrift for sprogvidenskap* 14, 61-95.
- . 1973. Irano-Dardica. Wiebaden.
- Mundalay, Asha, 1996. "Nihali lexicon". *MT* II, 17-40.
- Nampoothiry, M.N. 1987. Indian Toponymy. A critical evaluation of the work done in this field in India with a bibliography in: P. Ramacharan: 1-47.
- Nurse, D. A 1983. "Hypothesis of the origin of Swahili". *Azania* 18, 127-150.
- Oberlies, Th. 1994. Review Article: F.B. J.Kuiper: "Aryans in the Rigveda". *IJJ* 37, 33-349.
- Parpola, A. 1984. Interpreting the Indus script In: Lal, B.B. and S.P. Gupta, *Frontiers of the Indus Civilization: Sir Mortimer Wheeler commemoration volume*. New Delhi: 179-191.
- . 1994. *Deciphering the Indus script*. Cambridge: Cambridge University Press.
- . 1997. *The Dasas and the Coming of the Aryans*. In: M. Witzel (ed.) *Inside the texts, Beyond the Texts. New Approches to the study of the Vedas*. (Harvard Oriental series, Opera Minora 2). Cambridge, 193-202.
- Piggott, S. 1992. *The earliest wheeled transport: from the Atlanta coast to the Caspian Sea*. London: Thames & Hudson.

- Pinnow, K.H. 1954. "Zu den altindischen Gewa "ssernamen". *Beitra"ge zur Namensforschung* 4, 1953, 217-234; 5, 1-19.
- . 1959. Versuch einer historischen Lautlehre der Kharia-Sprache, Wiesbaden.
- Pokorny, J. 1959. Indogermanisches etymologisches Wo"rterbuch, Bern/Mu"nchen.
- Posselhl, G. Meluhha. 1996a. In: J. Reade (ed.) *The Indian ocean in Antiquity*. London: Kegan Paul Intl., 133-208.
- . 1997. "The Transformation of the Indus civilization". *Journal of World Prehistory* 11, 425-72.
- Proferes. 1999. "The Formation of Vedic liturgies". Harvad Ph.D. Thesis.
- Przyludski, J. 1929. Further Notes on Non- Aryan Loans in Indo-Aryan, in Bagchi: 145-149.
- Ramachandran, Puthusseri and K. Nachimuthu (eds.) 1987. Perspectives in place Name Studies: Proceedings of the National Seminar on South Indian Place Names, Held at Trivandrum on 21-23 June 1985. A Festschrift to Prof. V.I. Subramoniam, On His Sixteith Birth Day,, Trivandrum : Place Name Soccity.
- Randhwa, M. S. 1980-86. *A history of agricultrure in India*. New Delhi: Indian Council of Agricultural Research.
- Rau, W. 1997. *The Earleist Literary Evidence for Permanent Vedic Settlements*. In: M. Witzel (ed.) *Inside the Texts. Beyond the Texts*. New Approaches to the study of the Vedas Harvard Oriental Series. Opera Minora, Vol.2 Cambridge, 202-206.
- Reihhard, J. 1969. AperBu sur les KusuNDA. *Objects et Mondes* 9, 89-106.
- . 1974. "The Raute: Note on a nomadic hunting and gathering tribe of Nepal". *Kailash* 2, 233-271.
- Reinhard, J. & Tim Toba. 1970. A preliminary linguistic analysis and vocabulary of the Kusunda language, Kirtipur: Summer Institute of Linguistics and Tribhuvan University.
- Sankalia, H.D. 1949. Studies in the historical and cultural geography and ethnography of Gujarat (places and peoples in inscriptions of Gujarat: 300 B.C.-1300 A.D) Poona: Deccan College.
- Schmid, L. 1981. "Report on a survey of Dardic languages of Kashmir". *Indian Linguistics* 42, 17-21.
- Shafer, R. NhAll, 1940. "A linguistic study in paleoethnography". *Harvard Journal of Asiatic Studies* 5, 346-371.
- . 1954. *Ethynogeography of Ancient India*, Wiesbaden.

---. 1966-7. Introduction to sino-Tibetan. Wiesbaden.

Shaffer, J.G. & Diane A. Lichtenstein. 1995. The concepts of "cultural tradition" and "palaeoethnicity" in south Asian archeology. In: G. Erdosy (ed.), 126-154.

Sharma, D.D. 1986. Old Indo-Aryan element in Kinnauri. Dr. B.R. Sharama Felicitation Volume, Tirupati: Kendriya Sanskrit Vidyapeetha, 149-155.

Southworth, F. 1974. "Linguistic stratigraphy of north India. In: F. Southworth and M.L. Apte (eds.) Contact and Convergence in Indian Languages", *International Journal of Dravidian Linguistics* 3, 201-223.

---. 1979. "Lexical evidence for early contacts between Indo-Aryan and Dravidian". In: M. Deshpande and P.E. Hook (eds.) *Aryan and Non-Aryan in India*. Ann Arbor: Center for South and Southeast Asian Studies, University of Michigan, 191-233.

---. 1988. "Ancient economic plants of South Asia: linguistic archeology and early agriculture". In: *Languages and Cultures. Studies in Honor of Edgar C. Polome*. M.A. Jazayery and W. Winter (eds.) Berlin/New York: Mouton de Gruyter, 559-668.

---. 1990. "The reconstruction of Prehistoric south Asian Language contact", in E. H. Bendix (ed.), *The Uses of Linguistics*. New York: New York Academy of Science, p. 207-234.

---. 1995. "Reconstructing social context from language: Indo-Aryan and Dravidian prehistory". In: *The Indo-Aryans of Ancient south Asia*, ed. G. Erdosy (ed.). Berlin /New York: de Gruyter, 258-277.

Starostin, S.A. 1989. *Rekonstruktsiya drevnekitaiskoi fonologicheskoi sistemy*, Moscow.

Szemere'nyi, O. 1970. *Einflu'hrung in die vergleichende Sprachwissenschaft*. Darmstadt.

Tamot, K. & Alsop, L. 1996. The Kushan-period Sculpture from the region of Jaya Varma-, A.D 185, Kathmandu, Nepal: Asian Arts, July 10, at: www.asianart.com/index.html.

Thomas, F.W. 1933. "The Zan Zun language", *JRAS*, 405-410.

Tikkanen, B. 1988. "On Burushaski and other ancient substrata in northwest south Asia". *Studia Orientalia* (Helsinki), 64, 303-325.

Turner, R.L.A. 1966. *Comparative Dictionary of the Indo-Aryan Languages*. London.

Tyler, Stepehn. 1968. "Dravidian and Uralina: the lexical evidence". *Language* 44, 798-812.

- Van Driem, G. and SuhnU Ram Sharma. 1996. "In search of Kentum Indo-Europeans in the Himalyas". *Indogermanische Forschungen* 101, 107-146.
- . 1997. "Some Grammatical Observations on BaGgANI". *Indogermanische Forschungen* 102, 179-198 (cf, <http://iias.leidenuniv.nl/host/himalaya/individ/kirmor.html>).
- Vallat, F. 1980. *Suse et Elam*. Paris: Editions ADPF.
- . 1985. "Ele'ments de ge' ographie e'lamite (re'sume')" *PO* 11, 49-54.
- Wells, B. 1998. An Introduction to Indus Writing. MA. Thesis, U. of Calgary [2nd ed.: Early Sites Research Society (West) Monograph Series, 2, Independence MO 1999].
- Whitehouse, P. 1997. "The External Relationships of the Nihali and Kusunda Languages". *MT* III, 4-44.
- Witzel, Michael, 1980. *On the location of the Licchavi Capital of Nepal*. Festschrift fu'r P. Thieme (=StII 5/6), pp. 311-337.
- . 1983/85. "Zu den Namen einiger vedischer Schulen". *StII* 10, 231-237.
- . 1987. *On the localization of Vedic texts and schools* (Materials on Vedic zAkhAs, 7). G. Pollet (ed.), *India and the Ancient world. History, Trade and Culture before A.D 650*. P.H.L. Eggermont Jubilee Volume. Leuven, 173-213.
- . 1989. *Tracing the Vedic dialects*. In: Colette Caillat (ed.), *Dialectes dans les litte'ratures indo-aryennes*. Paris: Institut de Civilisation Indienne, 97-264.
- . 1993. *Nepalese Hydronomy. Towards a hostroy of settlement in the Himalayas*. G. Toffn (ed.), *Nepal, Past and Present*. Proceedings of the Franco-German Conference, Arc-et-Senans, June 1990. New Delhi.
- . 1994. *The Brahmins of Kashmir*. In: Ikari, Y. (ed.) *A study of the Nilamata- Aspects of Hinduism in Ancient Kashmir*. Kyoto: Institute for Research in Humanities, Kyoto University, 237-294.
- . 1995. *Early Indian history: Linguistic and textual paramenters*. In: *The Indo-Aryans of Ancient South Asia*, ed. G. Erdosy (ed.), = *Indian Philology and South Asian Studeis*, ed. A. Wezler and M. Witzel, vol. 1. Berlin/New York: de Gruyter, 85-125.
- . 1995. *Rgvedic history: poets, chieftains and politics*. In: *The Indo-Aryans of Ancient south Asia*, ed. G. Erdosy, 307-352.
- . 1997a. *Early Sanskritization. Origins and development of the Kuru State*. In: B. Ko'lvler (ed.), *Recht, Staat und Verwaltung im*

klassischen Indien. The State, the Law, and Administration in Classical India. München: R. Oldenbourg, 27-52.

---. 1997b. *The Development of the Vedic Canon and its Schools: The Social and political Milieu. (Materials on Vedic zAkhAs 8)*. In: M. Witzel (ed.) *Inside the Texts, Beyond the Texts. New Approaches to the Study of the Vedas*. Harvard Oriental Series. Opera Minora, vol.2. Cambridge, 257-345.

---. 1999. Aryan and non-Aryan Names in Vedic India. Data of the linguistic situation, c. 1900-500 B.C. in: J. Bronkhorst & M. Deshpande, *Aryan and Non-Aryan in South Asia. Evidence, Interpretation and Ideology*. Harvard Oriental Series. Opera Minora, vol. 3. Cambridge, 337-404.

Zide, N.H. 1969. "Munda and non-Munda Austroasiatic Languages", in: *Current Trends in Linguistics*, 5. The Hague: Mouton, 411-430.

Zide, A. & Zide, N.H. 1973. "Semantic reconstruction in proto-Munda cultural vocabulary". *Indian Linguistics* 34, 1-24.

---. 1976. *Proto-Munda cultural vocabulary: evidence for early agriculture*. In: Ph.N. Jenner et al., *Proceedings of the First International Austroasiatic Conference*. Honolulu: University of Hawaii Press, 1295-1334.

---. 1996. "On Nihali". *MT* II, 93-100.

Zoller, C.P. 1988. "Bericht u"ber besondere Archaismen im Bangani, einer Western Pahari-Sprache. Münchener Studien zur Sprachwissenschaft 49, 173-200.

---. 1989. "Bericht u"ber grammatische Archaismen in Bangani, Münchener Studien zur Sprachwissenschaft 50, 159-218.

Zvelebil, K. 1972. "The descent of the Dravidians". *International Journal of Dravidian Linguistics* 1-2, 56-63.

---. 1985. "Review of McApin 1981", *JAOS* 105, 364-372.

---. 1990. *Dravidian Linguistics: an Introduction*. Pondicherry: Pondicherry Institute of Linguistics and Culture.



SYSTEMIC TREATMENT OF SOUND CHANGES: A COMPARATIVE STUDY OF TELUGU AND RUSSIAN¹

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ABSTRACT

The chief concern of this paper; is to review some of the basic approaches towards the possibility of explanation of sound changes. Hence, it sheds light on well-known sound changes occurred in the history of Telugu and Russian and examines them from systemic-determinative linguistic standpoint. The paper will also briefly address the question as to how these sound changes tie in with the claims about perfection of inflectional characteristics in Russian and development of the same in Telugu. It finally discusses the implications of such study to the further understanding of organization of sound systems of both the languages.

In research over the past century-beginning with the pioneering works of Humboldt (1988) and Baudouin De Courteny (1871) – linguists have attempted to devise an explanatory paradigm of language. With few isolated exceptions (Chomsky and Hall 1968, Melnikov 1986). Until recently there has been little work done in this regard. However, these two theories, namely, Chomskian generative enterprises and Melniko's systemic-determinative theory emanated from Humboldt-Baudouin linguistic dynasty, disagree in their basic premises. A detailed comparative analysis of these two approaches has been presented in systemic linguistics (Melnikow 1967: Prabhakara Rao 1999). Phonologists also supposed that it is not enough for any theory simply to list out sets of phonological properties of natural language; on the contrary, a theory must seek to explain them. So, a

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key question for any adequate theory to answer is 1) whether it is possible to explain sound changes occurring at various stages of language and correlate them with language evolution: 2) If so, what are the essential defining characteristics which allow to explain these changes and analyze their impinge on the evolution of language system.

Many phonologists reacted to these issues very pessimistically. They argue that 1) phonetic facts are too specific to interpret phonological processes in psychological or physical entities (Ladefoged, 1983); 2) Though some aspects of phonology can be explainable in terms of psychological and social parameters, it is not the task of linguists to deal with such issues (Anderson, 1981); 3) It is practically impossible to meet criteria for 'true' explanations (Dinnsen, 1980). Thus, these phonologists advocate that it is unwise to rely on some parameter and seek explanation since all conditions necessary for a phonological process (sound change) cannot be identified; in addition, it is always difficult to find reasons as to why one language allows a certain sound change and another will not in identical circumstances (Ohala, 1984: 216).

However, the current research in phonology; indicates that explanatory accounts for sound processes are not only possible, but some of them are presently at hand. This gives an optimism to assume that phonologists have recognized the limitations of purely descriptive statements, especially in currently fashionable phonological models, and began exploring means and methods of explaining various phonological processes. An exhaustive review of present-day phonological paradigms has been already offered in systemic linguistics (Prabhakara Rao, 1999a, 1996). Just to add to it, all the attempts to formulate an explanatory paradigm has ended with proposing two models: 1) deductive nomological (D-N) explanations: 2) deductive-probabilistic (D-P) explanations. By applying the later model to, for instance, dissimilation Ohala (1981) has made some interesting observations. He proposed that perceptive mechanism is responsible for the occurrence of dissimilation in any language. Ohala (1984: 221-222) further enunciates, "Dissimilation occurs when a listener invokes..... Corrective rules inappropriately, that is, factors out aspects of pronunciation that were intended features of pronounciations."

On the other hand, a new approach to the explanatory study in phonology has emerged under Kiparsky (1984). His postulations,

which could be accommodated well within the generative framework. about certain sound changes like assimilation have attracted the attention of many scholars. If Ohala, as it was shown above, picked up auditory parameter to explain dissimilation, Kiparsky (1995), conversely, chose articulatory parameter as a basis for explaining assimilation. In a nutshell, Kiparsky maintains that the main reason for the occurrence of assimilation in a sound system lies in the ease of articulation, which means, that speaker prefers sequences of similar sound which are expected to be easier to pronouncing rather sequences of entirely different sounds, whereas Ohala's statement vividly shows that the chief cause for dissimilation lies in the listener.

Thus far, we have looked pessimistic as well as the skeptic approaches toward explanations of phonological processes. Naturally, the later approach initiated chiefly by Ohala and Kiparsky enthused scholars and consequently, they began interpreting other phonological processes such as metathesis, vowel harmony in acoustic, articulatory, auditory and even socio-linguistic terms. Likewise, many comparisons on motivations of various phonological processes have come up in subsequent years (Hume, 1998: 173-174). The line thus emerges as explanation of sound processes through certain language-specific parameters. It should be remembered that all potential problems which arise with explanatory study of phonological processes are being basically resolved within the framework of linear and non-linear models. Only Robert King, in 1967, endeavoured to explain sound change in Icelandic and German dialects by invoking the concept of functional load introduced by Prague Circle.

On the other end of spectrum, the issue of explanation of sound changes was differently handled by non-mainstream linguists. For instance, Zuravolv (1969) based his claims on the methodological postulation of existence of universal internal 'immanent' characteristics of phonemic relations. However, he applied it to essentially diachronic phonology. Zuravlov subscribed to the idea that the immanent characteristics "without the help of almighty tendencies" would direct the development of sound systems in certain path. Since the relevant principles are posited to be universal, it follows that they are applicable to every phonological operation in any language. He later tried to explain diachronic and certain synchronic reconstructions in some languages including Russian.

Given that different languages exhibit different phonological properties, it seems that N. Van-Vaik's (1957) observations represent

great significance to the apprehension of sound processes in Slavic and particularly, Russian language. He enumerates major tendencies observed in Slavic languages like monophthongization of diphthongs, development of nasals, loss of consonants which close syllable etc. Besides, he also noticed the reconstruction of original Proto Indo-European consonantal system in Slavic, vowelization of sonorants which finally led to epenthesis (polnoglasie) in Russian. Remarkably, Van-Vaik emphasized that all these processes represent the consequence of a general tendency, namely, tendency toward ascending accent. This particular tendency, as per Van- Vaik, had defined the phonetic shape of Slavic word-forms leading to an open syllable structure. It is true that the diphthongs like –ou-in-eu-or –au-in-u-etc. modify syllables and convert them into open (for instance, gau-Tu ‘to give’): they also alter consonantal articulation to vocalic sound. The conversion of closed syllables like – tin- into syllables with nasal vowels –TA-also provides a case for principle of ascending accent. The change of original Indo- European syllables like- Grand-into Russian syllabic sequence as Go-ro-d also indicates the role of ascending accent although this had happened only after the occurrence Slavic liquid metathesis: LV> VL (L = liquid, V = vowel). Which means, that the process of epenthesis (polnoglasie) had to commence and the stage was only at ‘Gra-d’.

So, the obvious implication of Slavic liquid metathesis was that it in later development of syllabic structure provided basis for epenthesis polnoglasie in Russian. In their latest work on metathesis Blevins and Gorrett (1998:517) accomplished”... Slavic liquid metathesis which has in fact been interpreted phonotactically as one of several strategies to eliminate closed syllables.” This claim is well in agreement with Van-Vaik’s proposal that Slavic liquid metathesis had contributed to converting close syllables into open ones and made way clear for Russian epenthesis (polnoglasie).

However, Van-Vaik obviously failed to explain all phonological reconstructions in the evolution of Slavic languages by means of the tendency of ascending accent alone. A kindred uneasiness has apparently prompted him to select another general tendency – tendency toward palatalization. Which means that, palatalization of consonants under the influence of immediately following front vowel and mixing – I- with preceding consonant or a group of consonants.

The above discussion unearths the fact that neither ‘mainstream’ linguists’ language-specific parameters nor other accounts basing on

'immanent characteristics' and specific phonological tendencies could not answer the question as to how to explain sound changes through a single-generalized tendency. To avoid the hopeless mess, systemic phonology - a sub-discipline of systemic-determinative linguistics which goes back to the linguistic traditions of Wilhelm Von Humboldt, I > I. Srejnevsky, A.A. Potibnee and Baudouin De Courtenay, G.P. Melnikov and is being currently developed by some of Melnikov's students, strives to find out pivotal tendency' in language system. It believes that chief tendency or internal determinant characterizes the organization and the evolution of language as an organic entity; moreover, the formation of internal determinant of language is defined by the social conditions in which a given linguistic community exists. These conditions, in systemic linguistics are designated as external determinant of that language. Thus, we might generalize our discussion at this point in the following manner: Systemic linguistics searches for a 'generalizing tendency' of language which enables to explain its subsystems and their evolution while other paradigms restrict themselves to make explanation only for individual linguistics properties preferably through certain individual tendencies. Because, it strongly advocates that all such individual tendencies at all levels of languages are finally inclined to the general organizing tendency inherited by language while serving communicative needs of linguistic community over a long period. In other words, acquisition of maximal steadiness by language system is explainable only by means of internal determinant which in turn formed and controlled by its counter part, i.e. external determinant. And, a language can acquire maximum steadiness of all its components only in the process of fulfillment of communicative needs, which are dictated by societal demands.

In a work of great influence, the linguist Baudouin de Courtney (1871) has formulated the chief peculiarity of inflectional language in the following way: the direction of vector of mutual influence of speech units always shows on preceding units which provides to the speaker an opportunity to construct his speech in such way that hearer at all levels of perception – semantic, formal-syntactic morphological and phonological, can guess definite features of subsequential part on the basis of perceived speech. This tendency toward prediction of form and content of inflectional language can be said as its chief tendency and hence, internal determinant of that language type. In converse, the main principle that is to be observed throughout the system of agglutinative language, as per systemic enterprise, represents

principle of remindness; which means, that linguistic units of this language type acts in such a way that at all levels of perception, the concentration is made on succeeding units of speech. Hence, the principle of remindness may be termed as internal determinant agglutinative language (Prabhakara Rao, 1997). Indeed, this is the more general property which differentiates inflectional from agglutinative type, i.e. prediction vs. remindness of linguistic units.

Furthermore, commenting on the evolution of Slavic system right from proto-Indo-European, A. Meillet (1961) had made in-sightful observation which, to our mind, has far theoretical implications in the study of these languages. Meillet points out that among all Indo-European languages, only Slavic, and particularly the Russian language, could not only preserve Indo-European inflectional characteristics, but also consolidated and developed them to their logical end. On the other hand, systemic analysis of two major groups of Indian language (Dravidian and Aryan), especially, Telugu has revealed that though these languages genetically and typologically belong to different families (Dravidian – Uralo-Altaic and Aryan – Indo–European) and types (Dravidian—agglutinative, Aryan—inflectional), after thousands of years of a real influence, these two major groups slowly began moving toward inflection (Prabhakara Rao, 1997). As one of the aims of this paper include re-examination of these postulations from systemic linguistic point of view, let us now turn to the study of them on the material of Telugu and Russian.

It is a well-established fact that in old Slavic and later old Russian chiefly four sound changes were discovered. They included 1) principle of ascending accent; 2) liquid metathesis and epenthesis; 3) palatalization and 4) monophthongization of diphthongs. The major phonological changes that are being normally said in South Central Dravidian and subsequently in Telugu are 1) palatalization; 2) metathesis and vowel harmony. I am consciously avoiding Sandhi rules here due to space limitation. In my earlier works, (Prabhakara Rao, 1992:1995) I dealt at length with deterministic explanation of Russian vocalism and consonantism, from their Indo-European to contemporary state. Consolidation of Indo-European inflectional technique can be found, from systemic point of view, in the effective implementation of prediction principle. Let us take, for instance, palatalization. It is generally defined as a single diachronic or synchronic process where under the influence of succeeding sound, the preceding one acquire palatal characteristic. After examining many

languages Bhat (1978) concluded that two different conditions are necessary for bringing a palatal change: 1) there should be palatalizing environment: which means that the succeeding sound must be a front vowel, a palatal semivowel, or a palatal or palatalized consonant; 2) the sound that results from the change must be palatal one. Shevelov (1964) established that in Russian, only the first condition is present. However, what particularly interesting is about two-tier Russian palatalization of velar obstructions (k, g x). It occurs like this 1) $k > ^v c$: $g > ^v j$, $x > ^v s$ before $-j-$; 2) $k > c$, $g > dz > z$, $x > s$ before $-oy-$. The obvious implication of this process is that it finally makes the typical syllable open which is represented by the sequence of consonant + vowel (CV). To put it in Baudouins terms "the subsequent sound influence the preceding ones. " As a result, consonant will phonetically agree with vowel and accepts one of its phonetic modifications. In other words, a consonant becomes palatalized or unpalatalized depending up on the following vowel. Hence, whenever speaker hears consonant at initial position of syllable, he can always predict the class of succeeding vowel.

However, this aim could be achieved only when the structure of syllable consonant + vowel (CV) not only occurs frequently, but becomes compulsory also. For that, a syllable has to end with maximum peak by pronouncing vowel and start with minimum peak – consonant. Because, after all, consonants are not syllable peaks.

So far as Telugu is concerned, the process of palatalization is confined to a single consonant: $k > c$ before front vowels, except when it is followed by $-r-$. Thus, the consonant $-k-$ is palatalized in Telugu words before $-e-$ which came from proto-Dravidian $-ai-$ (Tel: Coiluka: Ta: kili, ka:kiru). As Burrow has noted that Telugu represents the South Dravian language most effected by palatalization as compared to Tamil and Malayalam. The palatalization in Telugu has probably started, as per inscriptions, around 5th century. Moreover, historical analysis suggests that "palatalization of $k\bar{i}$ and $k\bar{e}$ – commenced after the completion of the metathesis of radical phonemes. ... " (Krishnamurti, 1972:10). Adopting the notions of systemic phonology to Telugu, it was proved that the palatalization has began not in the period of the separation of Telugu from south Dravidian as Krishnamurti proposed, but has started in proto-Dravidian itself and consequently, it can be said that palatalization in South Dravidian occurred much before metathesis (Prabhakara Rao; 1999:5).

Thus, there seems to be considerable difference between Russian and Telugu palatalization. As it is vivid from the above analysis, that this process is not much productive in Telugu and thus is limited to only one phoneme (k > c). South Dravidian metathesis appears to be, as per systemic analysis, one of the main causes for not spreading over palatalization to other sounds, whereas Slavic palatalization has acquired special auxiliary function to such an extent, that phonological perception of slovans has increased its feeling to catch this feature. Because of this only, the Indo-European sonorant -j- is still presented in Slavic languages.

An interesting piece of evidence in support of further establishment of inflectional characteristics in Russian comes from the tendency toward ascending accent which finally took the shape in the form of rule of open syllable. This has happened in the process of century-old reconstructions in Slavic sound system inherited from Indo-European.

Some additional evidence that the principle of prediction took deep root in Slavic including Russian and the same tendency began in Telugu long back comes from the phonological processes, namely, liquid metathesis and epenthesis in Russian and metathesis in Telugu. Let us first look at Slavic liquid metathesis and epenthesis. Metathesis may be defined as a diachronic process which includes transposition of linearly ordered elements. The Slavic liquid metathesis involves, as it was said, a VL > LV change (for instance, proto-Slavic... orbata, Russian robota (work). Though this metathesis is found throughout the Slavic family, the occurrence of it at medial position registered only in South and west Slavic (e.g. Bulgarian and polish respectively). But east Slavic to which Ukranian and Russian belong shows a different variety of liquid metathesis. Here, one will come across with vowel copying like VL -- > VLV.

Proto Slavic	Bulgarian	Polish	Russian
* <i>gordu</i> 'city'	<i>grad</i>	<i>grod</i>	<i>gorod</i>
* <i>melko</i> 'milk'	<i>mleko</i>	<i>mleko</i>	<i>moloko</i>
* <i>dervo</i> 'tree'	--	<i>drzewo</i>	<i>derevo</i>
* <i>soldu</i> 'malt'	--	<i>slod</i>	<i>solod</i>

Table 1: Slavic liquid metathesis and Russian epenthesis (Blevin and Garrett (1998)

The Russian epenthesis (polnoglasie) which is of VL -- > VLV type is solely restricted to VL sequences with nonhigh vowels.

One may wonder why south and west Slavic possess VL -- > LV type of metathesis whereas East Slavic employed vowel copying i.e. VL -- > VLV type. Perhaps, the answer lies in the nature of these languages itself. Again, with an aim to make the principle of prediction more operational thereby consolidating the inflectional characteristics, Russian as compared with other languages of the same family, opted for the later type. It naturally converts syllable into CV structure.

By contrast, Telugu has more productive metathesis. It occurred in Telugu-Kuwi group of languages which belong to South-Central-Dravidian family. The most comprehensive descriptive study of this problem was undertaken by Krishnamurti in his work of 1961. according to him, metathesis started in Proto-Telugu-Kuwi just before its disintegration and it was carried out in each language in its own way (Subrahmanyam, 1983: 225-248). In Telugu, it operates in its own ways: 1) $V^1C^1 - C^2 > C^1 V^1 - C^2 C^2$; 2) $V^1C^1 - V^2 > C^1V^1$ (V^1 = root vowel, V^2 = suffix -vowel, C^1 = root -consonant, C^2 = suffix-consonant). For instance, *ur-d-> Tel: ru-dd-u 'to rub': * ar-a-> Tel: rā-yu 'to be rubbed/). Krishnamurti concludes that the process has first started in the Proto-stage of Telugu and at this stage only a few lexical items which mostly began with a vowel were effected and later it spread to those which began with consonants in individual languages.

What this implies in the case of Telugu is that the tendency of metathesis which slowly became regular, served a specific structural purpose- to change mixed syllable canon to a largely open syllable type. This had far-reaching repercussions in sequential arrangement of phonemes (Prabhakara Rao, 1993). It can also be said that particularly a productive metathesis in Telugu has also provided basis for the development ingenious morphono logical (sandhi) processes.

By drawing direct inference a relation between Slavic sound liquid metathesis and its Telugu counterpart, we must assume that both the processes are aimed at avoiding complex syllable margins and pave way for open syllable structure. However there is a striking distinction between these two processes of metathesis. It lies in the fact that Slavic liquid metathesis, particularly Russian, shows the effects of VL -- > LVV vowel copying, whereas in Telugu, the metathesis of type II. i.e. $V^1C^1 - V^2 > C^1V^1$ is accompanied by vowel is transposed by

metathesis, the derivative is lost by lengthening the metathe sized vowel.

A further piece of evidence in support of continuation and consolidation of Indo-European inflectional characteristics in Russian comes from the sound process of monophthongization of diphthongs in Russian. Because, it is even common knowledge that being the combination of two vowels (*ai, oi* etc.), diphthong creates obstruction for a syllable to become open. Moreover, it is impossible to predict the phonetic characteristics of preceding consonant in CV structure. Hence, no alternative was left to Russian except to monophthongize the diphthongs.

The overall conclusion to be drawn from our discussion is that the current analysis is of significance not only with respect to the theoretical implications it has explanatory phonological theory, but, in addition, for further advancing our understanding about causes for various phonological processes. The attraction of systemic phonology is two-fold: 1) it articulates a detailed deterministic explanation of phonological processes through a defining tendency of language system with predictions which precise enough to bring Humboldt-Baudouin linguistic heritage back into the field of phonology; 2) a comprehensive implementation of notations of systemic-determinative linguistics opens up a whole new range of issues important to both general phonological theory and Slavic as well as Dravidian linguistics. There is much left to do. The systemic phonology and its implementation on various languages need to be actively applied. Specifically, there is a need for more investigation of general claim about the evolution of Indian (Dravidian and Aryan) that these languages are slowly developing inflectional tendencies. So far as Russian is concerned, that post-Perestroika period has significantly altered the role of Russian and, of course, it will take still a lot of time to observe any tendencies at phonological level. Thus systemic phonological analysis may provide an important key to understanding the evolution of studying languages in cause-effect terms.

BIBLIOGRAPHY

- Anderson, Stephen R. 1981. "Why Phonology isn't natural". *Linguistic Inquiry*. 12: 493-539.
- Baudouin De Courtenay. Jan. 1871 (1972). "Some General Remarks on Linguistics and Language". In Baudouin de Courtenay, Ja. 1972.

Selected Writings of Baudouin de Courtenay, ed. E. Stankiewicz. Bloomington, Indiana University Press, P. 49-80.

Bhat, D.N.S. 1978. "A General Study of Palatalization". In *Universals of Human Languages: Phonology*. Ed. By J.H. Greenberg. Stanford: University. Vol.2

Blevines, J. and Garret, A. 1988. "The Origins of Consonant-vowel Metathesis". *Language*. 74:3.

Chomsky, N. and Hall, M. 1968. *The Sound Pattern of English*. New York: Harper and Row.

Dinnsen, Daniel A. 1980. "Phonological Rules And Phonetic Explanation". *Journal of Linguistics*. 16:171-191.

Humboldt, Wilhelm von. 1988. *The Diversity of Human Language Structure and its Influence on the Mental Development of Mankind*. Translated by Peter Heath with an introduction by Hans Aarslef. Cambridge: Cambridge University Press.

Hume, Elizabeth. 1998. "Metathesis in Phonological Theory: The Case of Leti". *Lingua*. 3:104: 147-186. The Netherlands.

King, Robert D. 1967. "Functional Load and Sound Change". *Language*. 43:3.

Kiparsky, Paul. 1984. *Explanation in phonology*. USA: Foris Publications.

-----, 1995. "Phonological Basis of Sound change". In J. Goldsmith (ed). *Handbook on Phonological Theory*. Oxford: Balackwell. P.610-670.

Krishnamurti, Bh. 1972. *Telugu Verbal Bases. A Comparative and Descriptive Study*. Delhi.

Ladeforged, Peter. 1980. "What are Linguistic Sounds Made of?" *Language*. 56: 485-502.

Meillet, A. 1961. *Etudes sur L' etymologie et le Vocabulaire du View Slave*. Paris. P. II >

Melnikov, G.P. 1967. "Sistemnaya Lingvistika I iyo Otnasheniye k Strukturnioi". In *problemi Izikoznaniya*. 98-102.

-----, 1986. *Istoki, Principi I Sostayanie sistemnoi Tipologu*. Moskva.

Ohala, John J. 1981. "The Listener as a source of sound change". In C.S. Masek, R.A. Hendrik, M.F. Miller (eds). *Papers from the Parasession on Language and Behaviour*. P.178-203.

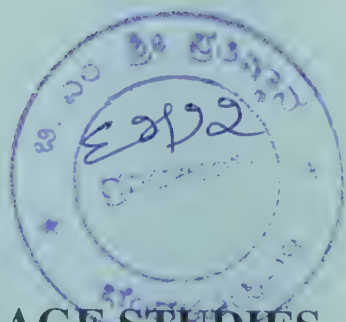
----, 1984. *Explanation in Phonology: Opinions and Example*. In *phonologica*. Cambridge: Cambridge University Press. P. 215-226.

- Prabhakara Rao, J. 1992. "Determinantnaya Obisneniya Evoluci I Sostayaniya Russkova Konsonantisma". *Studies in Russian Philology*. 2:1-12. Hyderabad: Osmania University.
- . 1993. "telooгу baasha ē disagaa parinaamam chendutondi". *Telugu*. 7:7:135-141. Hyderabad. Telugu University.
- . 1995. 'Sistemno-determinantnaya Obisneniya Evoluci I Sostayaniya Russkova Vokalucheskoi Sistemi'. *Studies in Russian Philology*. 14:29-40. Hyderabad: Osmania University.
- . 1997. "Linguistic Determinism and Social Causation". A paper presented at 18th Annual Conference of Linguistic Society of Nepal, Nov-26-27. Kathmandu.
- 1999. 'Systemic Linguistics: Some Remarks" (in press). *Indian Linguistics*. 10:35-40
- 1999a. "Toward An Explanatory Paradigm in Phonology". *IJDL*. XXIX: 2:127-136. Thiruvananthapuram.
- 1999b. "Gensis of systemic Phonology" (in press). *Linguistics Today*, Aligarh Muslim University, Aligarh.
- 1999b. telooгу lo talavyikaranam – oka lakshnaatmaka pariseelana. *Telugu*. 28:1:1-6. Hyderabad. Telugu Akademi.
- Shevelov, G.Y. 1964. *A prehistory of Slavic*. Heidelberg.
- Subrahmanyam, P.S. 1983. *Dravidian Comparative Phonology*. Annamalainagar. Annamalai University.
- Van-Vaik. 1957. *Istoria Staroslavjanskovo izika*. Moskva.
- Zuravlov. V.K. 1969. "O. vnutrinnih pricheenah poyavleniya phone teecheskih dubletov". In. *etimologie*, 1967. P. 110-118.

A HANDBOOK OF TAMIL NADU

Ed. K.M. Venkataramaiah, HB, Demi ¼, pp. 576, Rs.1000/- (US\$ 125/-)

Arranged alphabetically, this book covers most of the details on history, culture, language and literature, Saivism, Vaishnavism, Buddhism, Jainism, Christianity and Islam, and has pen-pictures of important personalities. Running to over 576 pages, with an appendix and index, it is intended not only for researchers as a ready reference but also as one catering to the needs of the common readers to know the land, people, history, culture, language and literature and religion of Tamil Nadu through the ages. Together with the Dravidian and the Tribal Encyclopaedias, this is also a prestigious publication of the International School of Dravidian Linguistics.



DRAVIDIAN TRIBAL LANGUAGE STUDIES SINCE CALDWELL*

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0. PREAMBLE

The South Asian subcontinent, as on today, is the homeland of speakers belonging to at least four distinct language families, namely, Dravidian, Austro-Asiatic, Indo-Aryan and Tibeto-Burman, besides a few unclassified languages. Regarding the number of languages spoken in India, there is considerable uncertainty as organisations such as the Census of India, Anthropological Survey, etc. put forward different numbers. However, linguists involved in field-work estimate the number to be around 200 or so. Out of these, almost 80% of the languages are spoken by the tribal communities across the country. Both Austro-Asiatic and Tibeto-Burman are exclusively spoken by tribal people. Even within Dravidian 75% are tribal languages. A tentative family-wise number of tribal and other languages is as given hereunder:

<i>FAMILY</i>	<i>TRIBAL LANGUAGES</i>	<i>NON-TRIBAL LANGUAGES</i>	<i>TOTAL</i>
Dravidian	24	6	30
Austro-Asiatic	20	-	20
Indo-Aryan	20	30	50
Tibeto-Burman	100	-	100
Others	10	-	10
<i>Total</i>	174	36	210

From the perspectives of sociolinguistics, the languages of India can be classified in the following dichotomous fashion: (a) Literary-

* Dedicated to the memory of Dr. Francis Ekka and Dr. P. Somasekharan Nair. This is a revised version of the paper presented at the XXVIII All India Conference of Dravidian Linguists at Idayankudi, Tamilnadu. 22-24 June 2000.

non literary (b) Written-oral (spoken) (c) Major-minor (d) Developed-undeveloped (e) Scheduled (Constitution recognised)-Unscheduled (f) Dominating-dominated (g) Used in wider domains-limited domains (h) Sustained (retained)-endangered, and (i) Nontribal-tribal. In this dichotomous situation, the tribal languages are relegated to the disadvantaged traits of the latter in each pair.

Linguistic hierarchy in ancient India was in the order of Sanskrit, Prākrit, Apabhramsa and Paisachi 'non-Aryan speech.' Fusion of Aryan and non-Aryan elements and mutual impact continued for over 4000 years. Interaction of Aryan and non-Aryan is recorded and revealed in language, literature, archaeology and ethnic sciences. According to A.L. Basham Munda (Austro-Asiatic) languages represent the earliest inhabitants of India as living here from the Palaeolithic age. Dravidian languages were introduced by Palaeo-Mediterranean migrants who came to India in the Neolithic period. Indo-Aryan languages were brought to India by the Aryans in the second millennium B.C.

Movement of population into South Asia is taken to be in the chronological order of Negroid, Austric, Dravidian, Aryan and Mongoloid. Aryan and non-Aryan interaction in ancient India started much earlier than the Vedic period of 2000 B.C. Rigveda was around 1500 B.C. The non-Aryans were considered substandard people and referred to as *dāsa varṇa* 'Dāsa colour', *adēva* 'the godless', *ayajyavah* 'non-sacrificiers', *anindra* 'non-believers in Indra' *mūra deva* 'worshippers of dummy gods', *śiśna dēva* 'worshippers of phallic gods' and *mridhra vācah* 'those whose language was obscure and unintelligible'; while *mlēcha* was 'a non-Aryan' *asura* was an Aryanised non-Aryan. Non-recognition of small identities and relegation of tribal people and their languages have been the attitude of the majority communities from the Vedic period onwards, which trend continues even nowadays.

V.I. Subramoniam's monograph *Language multiplicity and ancient races in India* (1995, CIIL) takes a fresh look at the Aryan and non-Aryan contacts in the realms of rituals, culture and language from the pre-Harappan period onwards. The treatment of Dravidian and other tribal communities at the hands of dominating Aryans is well brought out. The salient characteristics of each of the tribal groups and inter-influences between the Aryan and non-Aryan way of life, together with the enumeration and movement of ancient races in India can be fruitfully learnt from this short but important research work.

Turning our attention to research trends on Dravidian tribal languages, it is proposed to present a preliminary survey of selected works on each language, indicate general trends and directions for further research together with the problems involved. For this purpose the present paper is organised into the following sections: Section one deals with the pioneering works by the European missionaries and administrators during the 19th century i.e. the Caldwell period. Section two reviews the works that appeared during 1900 to 1950 i.e. the Linguistic Survey period. Section three concentrates on the exploratory linguistic field-work and publications during 1950-2000 i.e. the Modern (field-work) period. Section four deals with the role of tribal Dravidian in different branches of linguistic research and indicates the problems and prospects involved. Further it suggests certain directions for need-based further research towards the development of tribal languages; while section five summarises the state of the art survey with concluding remarks.

CALDWELL PERIOD (19th CENTURY)

By the beginning of the 19th century, it was a commonly held view among Indian scholars that all the languages of India originated from Sanskrit. Francis W. Ellis in his introduction to A.D.Campbell's *A grammar of Teloogoo language* (1816) noticed resemblances in vocabulary and certain aspects of structure among Tamil, Telugu, Kannada, Malayalam, Tulu, Kodagu and Rajmahali. This observation was further crystalised by Robert Caldwell in his *A Comparative grammar of the Dravidian or South Indian family of languages* (1856), (Second edition 1875). He divides the 12 Dravidian languages known at that time into cultivated dialects (Tamil, Malayalam, Kannada, Telugu, Tulu and Kodagu) and uncultivated dialects (Tuda, Kota, Gond, Khond, Oraon and Rajmahali). In the main body of the *Grammar* only the former group is discussed while the latter group is mentioned in the appendix under the label 'Ruder Dravidian Tongues' with an attempt to outline their elementary structures. He opines that there is a Dravidian element in Brahui. Under the impact of Caldwell's observations some more Westerners especially missionaries and administrators paid some attention to the so-called uncultivated tribal languages. The works of R.E. Roberts on Malto (1779); B.Schemidt on Toda (1837); R. Leech on Brahui (1838); Voysey on Gondi (1844); M.Buhler on Badaga (1849); John Percival Frye on Kui (1851); and

J. Mc D. Smith on Khond are worth mentioning. The available works of this period contain very scanty material on the languages with more attention paid to ethnological details. However, the credit of recognising the non-literary tribal languages goes to these works and the missionaries played a pivotal role in this regard (For further details see Emeneau, 1969 and Bhattacharya, 1969).

LINGUISTIC SURVEY OF INDIA PERIOD (1900 – 1950)

The volume IV of the *Linguistic Survey of India* (1906) edited by George A. Grierson is devoted to *Munda and Dravidian Languages* by Sten Konow. LSI adds three more languages, viz. Kolami, Kuvi and Brahui, thus bringing the number of Dravidian languages to 15. Emeneau (1969:335) observes "Since the *LSI* did not include any of the southern political divisions of India of its period..... much of the territory containing non-literary Dravidian languages was not covered by it. Moreover, the method of collecting information and the rather wide mesh of the collecting points yielded very unsatisfactory information in Central India. Little usable descriptive information could be drawn from *LSI*".

Some of the works that appeared during the LSI period have paved the way for further exploration and description. F.V.P. Schulze, a physician working in a missionary hospital near Salur in Andhra Pradesh, has published (1) *A grammar of the Kuvi language with copious examples* (Madras, 1911) and (2) *Vocabulary of the Kuvi-Kond language with short sentences on general subjects for conversational purposes* (Madras, 1913). He used Telugu script for Kuvi in the second work. Another volume on Kuvi by A.G. Fitzgerald *Kuvinga Bassa, the language of the Western Khonds* (Calcutta, 1913) contains elicited sentences illustrating the complex morphology of the verb and noun.

On Kui, *An introduction to the grammar of Kui or Kondh language* (Calcutta, 1902) by Lingum Letchmajee and *A grammar of the Kui language* (Calcutta, 1909) by J.E. Friend Pereira are worth the mention. W.W. Winfield's *A grammar of the Kui language* (Calcutta, 1928) supercedes the earlier works. Besides introduction, it has chapters on sounds, roots, nouns, adjectives and numerals, pronouns, verbs, adverbs and syntax. It is one of the best grammars available on any Kondh language. Winfield has also prepared *A vocabulary of the Kui language* (Calcutta, 1929).

M.B. Emeneau has conducted his intensive and extensive ethnolinguistic field-work in southern India during this period on Toda, Kota and Kodagu; and also on the Yeotmal dialect of Kolami. His works are too well known to repeat them here.

The works of Fred Hahn on *Kurukh grammar* (Calcutta, 1900); and *Kurukh-English dictionary* (Calcutta, 1903); A Grignard's *A grammar of the Oraon language* (Calcutta, 1924) and *An Oraon-English dictionary* (Calcutta, 1924) may be mentioned here. C.C.Chenevix Trench wrote a *Grammar of Gondi as spoken in Betul district, Central Provinces, India* (Madras 1919 – 21). D.D.Bray's *The Brahui language, part I – Introduction and grammar* (Calcutta, 1909); *The Brahui language part II – the Brahui Problem*; Part III *Etymological dictionary* (Delhi, 1934) are the best volumes on Brahui and also of the period together with Winfield's study of Kui.

MODERN PERIOD (1950 - 2000)

Dravidian is no longer a South Indian family of languages as it was thought of during the Caldwell period, but a South Asian family in that its members are spread right from Pakistan through Nepal, India, Sri Lanka and beyond. As on today, the number of Dravidian languages touches around 25 to 30 and they are classified into four subgroups based on comparative and historical evidences:

South Dravidian: Tamil, Malayalam, Toda, Kota, Kannada, Kodagu, Irula, Koraga and Tulu (The status of such other speeches as – Kurumba (Alu Kurumba, Mullu Kurumba), Kasaba, Kadar, Paniya, Soliga, Muduga, Kattunaickan and Urali is not yet clear, whether each is a dialect or a language).

South-Central Dravidian: Telugu, Gondi, Konda, Kui, Kuvi, Pengo and Maṇḍa. (The status of Indi-Awe and Koya are yet to be decided).

Central Dravidian: Kolami, Naiki, Parji, and Gadaba. (Status of Naikri deserves attention).

North Dravidian: Kurukh, Malto and Brahui. (Is Kisan a dialect of Kurukh?).

Out of these, Tamil, Malayalam, Kannada and Telugu have long standing separate written literature and the rest are non-literary languages. The former group is considered as the major Dravidian and the latter, the minor. With the exception of Tulu and Kodagu the other members of the latter group are spoken as native tongues by different sections of the tribal communities and hence referred to as tribal languages.

Among the tribal dialects (which are not yet established as languages) Yerukala, Muduga and Kadar are taken as dialects of Tamil; Badaga, Kurumba and Adiya as dialects of Kannada; Paniya, Mullu Kurumba, and Urali are treated as dialects of Malayalam; Koya as a dialect of Gondi; Naikri as a dialect of Kolami; and Kisan as a dialect of Kurukh. The language or dialect status is not yet clear for Kasaba and Indi-Awe. Scientific methods have to be evolved and applied to solve this intriguing problem which has direct bearing on the number of Dravidian languages.

The history of identification and description of Dravidian tribal languages reveals that most of the members were discovered during the period between the 1950s and 1980s of the 20th century owing to the exploratory linguistic field-work undertaken by many scholars, Indian and foreign. The dates of discovery and the scholars concerned with particular language(s) are as given below:

1950	Parji	-	T.Burrow and S.Bhattacharya
1950	Naiki	-	S.Bhattacharya
1951	Koṇḍa and Gadaba	-	S.Bhattacharya
1957-58	Pengo	-	T.Burrow and S.Bhattacharya
1964	Manda	-	T.Burrow and S.Bhattacharya
1964	Koraga	-	D.N.S. Bhat
1968	Irula	-	G.Diffloth (Kamil Zvelebil)
1979	Indi-Awe	-	B.Ramakrishna Reddy.

3.1 GENERAL REFERENCES ON TRIBAL DRAVIDIAN LANGUAGES

Emeneau, M.B. (1969) the non-literary Dravidian languages. *Current Trends in Linguistics*, Vol.5: South Asia. The Hague: Mouton, pp. 334-342.

Bhattacharya, S. (1969) New Dravidian languages. In *Dravidian Linguistics: Seminar papers* (eds). Agesthialingom, S. and N. Kumaraswami Raja. Annamalai University pp. 139 – 161.

Andronov, M.S. (1970) *Dravidian languages*, Hyderabad: Visalandhra Publications.

Bhattacharya, S. (1976) *The tribal languages of South Kerala*. Trivandrum: DLA.

Ramakrishna Reddy, B. (1981) Non-literary Dravidian languages: A survey of published works during 1965-1980. *Souvenir, XI All India Conference of Dravidian Linguists*. Hyderabad: Osmania University pp. 25-34.

Burrow, T. and M.B. Emeneau (1984). *Dravidian Etymological Dictionary – Revised* (DEDR). Oxford: Clarendon Press.

Ramaiah, L.S. and M. Kanakachari (1990) *Tribal linguistics in India: A bibliographical survey of international resources*. Madras: T.R. Publications.

Singh, K.S. and S. Manoharan (1997). *Languages and scripts*. People of India, National Series Vol IX. Calcutta: Anthropological Survey of India.

Manoharan, S. (2000). Dravidian and Dravidian languages spoken in India. paper presented to the 28th AICDL, Idayankudi.

Ramaiah, L. S. (forthcoming) *Non-literary Dravidian languages and linguistics*. Vol.6, International Bibliography of Dravidian Languages and Linguistics. Chennai: T.R. Publications.

M. B. Emeneau's contribution to *Current Trends in Linguistics* (Vol.5, 1969: 334-342) has surveyed the literature on "The non-literary Dravidian languages" from the late 18th century upto the mid-sixties of the 20th century. This section of ours of the 20th century survey is a sequel to Emeneau's article though it overlaps with what he has covered and it enumerates some of the major works that appeared in the field since 1950. One of the striking features of this period has been the discovery of several of the hitherto unknown tribal Dravidian languages and dialects, which have broadened the spectrum of Dravidian linguistics.

One of the major publications incorporating the lexical items of the non-literary languages is the *Dravidian Etymological Dictionary: Supplement* (DEDS, 1968) by T. Burrow and M. B. Emeneau. They have also issued some more materials as *Dravidian Etymological Notes* (DEDN, 1972). Currently available Dravidian cognates upto 1977 are included in the DEDR 1984, (*Dravidian Etymological Dictionary*

Revised). Apart from Burrow and Emeneau the works of Bh.Krishnamurti, P.S. Subrahmanyam, S.V. Shanmugam, M.S. Andronov, Kamil Zvelebil and others have widened our understanding of comparative Dravidian; all of which include materials from tribal languages. Subrahmanyam's text-book *drāviḍa bhāṣalu* ('Dravidian languages' 1977, in Telugu) contains chapters on comparative study of phonology, nouns and verbs; and sub-grouping of the Dravidian languages.

The collection of papers by Emeneau, *Dravidian linguistics, ethmology and folktales* (Annamalainagar, 1967) contains many of his important essays on the minor Dravidian published between 1937 and 1958. S.Bhattacharya outlines the progress of ideas in the discovery and description of non-literary languages from 1816 to 1964 in his readable article "New Dravidian languages" (1969). His discussion concentrates on the central Dravidian languages identified by Burrow and himself.

S. Agesthialingom and S. Sakthivel have compiled A *Bibliography of Dravidian linguistics* (Annamalainagar, 1973) which has fulfilled a long standing need for such a reference work. *Dravidian Phonological systems* (Washington, Seattle, 1975) edited by Harold Schiffman and C.M.Eastman contains essays, among others, on certain phonological aspects of Kodagu, Kota, Tulu, Irula, Gondi and Kui.

An excellent bibliographical survey of international resources is presented in a systematic fashion by L.S. Ramaiah and M. Kanakachary in their recent compilation entitled *Tribal linguistics in India*, 1990; which incorporates works on Dravidian tribal languages.

The Dravidian Languages (1998, Routledge, London) edited by Sanford B.Steever contains a descriptive analysis of six of the tribal Dravidian languages, namely Koṇḍa by Bh. Krishnamurti and B.A. Benham; Kolami by P.S. Subrahmanyam; Gadaba by Peri Bhaskararao; Brahui by Josef Elfenbein; and Gondi and Malto by S.B. Steever himself. The presentations are but a rewritten forms of earlier works by the respective scholars, except Steever's, which are summaries of others works.

Agreement in Dravidian Languages (International Institute of Tamil Studies, Chennai 2000) is the proceedings of a special symposium conducted under the aegis of the DLA and edited by B. Ramakrishna Reddy. Besides papers on other languages, the volume consists of four papers on agreement in tribal and minor languages, namely, Kodagu by R. Balakrishnan; Kota by G. Subbaiah; Adilabad

Gondi by K. Ramesh Kumar and T. Venkataswamy; and Manda by B. Ramakrishna Reddy. The general articles describe the morphology, syntax, semantics, pragmatics, history and psycho-sociolinguistic aspects of agreement in languages represented in the volume.

3.2 SOUTH DRAVIDIAN

Many scholars have turned their attention to the South Dravidian group during this period: The lion's share of the work comes from the Annamalai University and the Trivandrum Group (consisting of International School of Dravidian Linguistics and the Linguistics Department, University of Kerala) other major contributors being M.B. Emeneau, D.N.S. Bhat and K. Zvelebil.

Emeneau's *Toda songs* (1971, Oxford) is a major contribution to the ethnolinguistic study of this language. The book is an excellent model for any scholar interested in the collection and compilation of oral literature. Another of his publication *Ritual structure and language structure of the Todas* (1974, Philadelphia) shows the inter-relationship between the lexical structure of a language and the cultural norms and world-view of its speakers. Archaism as one of the factors contributing to the existing differences between poetry and prose style of Toda is demonstrated by Emeneau in "Linguistic archaism in Toda songs" (1979). His paper "Toda vowels in non-initial syllables" (1979) traces the historical development of these sounds from earlier stages of South-Dravidian.

Subrahmanyam's article "The Toda developments of Proto-Dravidian *a, *ā:, *ɭ, *ɭ (1976) explains the historical development of these sounds. S. Agesthalingom and S. Sakthivel in their article "Toda nouns" (1972) divide the nouns into various classes on the basis of semantic distribution-animate, inanimate etc., In his paper on "Toda case system" (1976) Sakthivel describes the noun morphology pertaining to the addition of case markers.

A grammar of the Toda language by S. Sakthivel (1975, Annamalai University) is written in a structuralist framework with copious examples devoid of any generalisations. It has chapters on introduction, sandhi, nouns, verbs, appellatives, clitics, particles, echo words and syntax. The morphological data can be used for a further detailed description of the language. Another book by the same author *Phonology of Toda with vocabulary* (1976, Annamalai University) gives a sketch of phonemics of the language under inventory, contrasts,

distribution, cluster, syllable and suprasegmentals. The vocabulary of Toda with English translation is arranged in the English alphabetical order, rather than the time-honoured practice of Indian writing system of vowels and consonants as for example in the DED.

Toda grammar and texts (The American Philosophical Society, Philadelphia, 1984) is a product of the sustained interest of a fertile and original thinking of M.B. Emeneau, which came out after nearly four decades of his field-work and cognition of the language structure. Apart from introduction and index, the volume contains two main parts: Part-I Grammar and Part-II Texts with translation and commentary. Part I deals with phonology (vowels, consonants, voiceless-voiced, accent, intonation, structure of words, morphophonemic rules, rules relating to slow speech and fast speech), syntax (SOV order, finite forms, embedding, subordination, verbal nouns, equational predications, quotative, focus shifting, questions and co-ordination), noun morphology, pronouns, numerals, adjectives, verb morphology, adverbs, particles, expressives and interjections. Under part II, a theme-wise classification of the texts is given as – mythology, dairy rituals, clans and moieties, funeral practices, miscellaneous ceremonies, love and marriage, ridicule, stories about Todas relation with other communities and folktales. In all there are 194 texts containing a treasure of information on language, culture, ritual and society. The linguist-cum-anthropologist-cum-Indologist in Emeneau are apparent throughout this *magnum opus*. Emeneau's research has always been exemplary for practitioners in the field. The methodology of the present work exploring the theoretical linguistic nuances on the basis of reliable data and its application in the description of a non-literary language will stand as a model to be emulated by students and scholars not only in the area of tribal language research but also on the analysis and description of any natural language.

G. Subbaiah has conducted field-work on Kota for his doctoral dissertation *A descriptive analysis of Kota language* (1972, Annamalai University, unpublished), which is published later under the title *A grammar of Kota* (1985, Annamalai University). He has further brought out two papers – "A note on agreement in Kota" (1972) and "Case system of Kota" (1976). C.M. Eastman's article "Morphophonemics of the positive and negative stems of the Kota verb" (1975) is a restatement of Sandhi rules in the framework of conventional generative phonology. *Kota phonetic reader* by G.Subbaiah, (CIIL, Mysore, 1986) provides a phonemic inventory of

the language along with examples for phonetic drills. Graphization of the sounds using Tamil and Nagari scripts is exemplified at the end of the reader.

Koraga (spoken in the South Kanara district of Karnataka) was identified as a separate language by D.N.S. Bhat in 1964. Since then he has published several papers on the language, the culmination of which can be seen in his book, *The Koraga language* (Poona, 1971). Koraga has three major dialects - Onti, Tappu and Mudu. The monograph has chapters on phonology, nouns, pronouns and verb morphology of each of these dialects separately. A comparative study of these three dialects, Koraga texts and vocabulary are appended. Bhat mentions about a new Dravidian language called Belari which needs to be studied further.

Independent field-work by Kamil Zvelebil and R.Perialwar, and their publications have decisively proved that Irula is an independent language. Apart from several articles, Zvelebil has published three monographs: *The Irula language: Part I* (Wiesbaden, 1973) *Part II* (Wiesbaden, 1979) and *part III* (Wiesbaden, 1982) These books give an outline of Irula phonology, morphophonemics, morphology and the position of Irula in Dravidian along with cultural notes. The other monographs by Perialwar – *A grammar of the Irula language*, (Annamalainagar, 1978) and *Phonology of Irula with vocabulary* (Annamalainagar, 1979) are an outcome of his intensive field-work on the language. The former is a book-length description of morphology of nouns, verbs, appellatives, adverbs, clitics and particles. It includes chapters on morphophonemics and syntax within the American structuralist framework. Besides being a linguist, the author is a committed field-worker with interest in folklore, ethnology and development studies of the Nilagiri tribes. His data are reliable and can be of much use for reinterpretation for any type of studies. The book on phonology consists of the ethnology of the Irula culture in its introduction along with a useful bibliography on the tribe. The phonology section deals with phonemic inventory, contrasts, distribution, clustering and syllable formation. Irula vocabulary with English translation is given at the end. Perialwar has published several papers on the language and culture of these people as well. Gerald Diffloth wrote a paper on "The South Dravidian obstruent system in Irula" (1975).

There is uncertainty regarding the independent language-status of the tribal speeches of Badaga, Yerukala, Kurumba, Muduga, Urali.

Kasaba and Kadar. There is a dispute whether Badaga is a separate language or a dialect of Kannada. P.S. Subrahmanyam in his book *Dravidian languages* mentions that Badaga is a dialect of Kannada. But in his latest monograph *Badaga, a Dravidian language* (Annamalainagar, 1999) R. Balakrishnan treats (as the very title suggests) Badaga as a separate language. The monograph is an outcome of the author's sustained ethnolinguistic field-work on the tribe. It is divided into three parts. Part one is a cultural introduction to the Badaga community dealing with social organisation, religion, rituals and other sociocultural distinctions. Part two is concerned with grammar consisting of phonology, morphophonemics, morphology (nouns, verbs, adjectives, adverbs) and syntax. Here the author has provided copious examples for the grammatical analysis he has adapted. The data seem to be authentic and can be of immense use for comparative, historical, cultural and typological studies. The Badaga vocabulary under part three is systematic and useful, as each entry is followed by a corresponding number from DED and DEDS which makes the vocabulary accessible for comparative studies. Besides, each item is provided with an appropriate grammatical category and English meaning.

Yerukala is one of the plains tribal communities which lives in Andhra Pradesh, Tamil Nadu and Karnataka. The tribe speaks a variety of Tamil which is analysed by G.Srinivasa Varma in his *Yerukala dialect* (Annamalainnagar, 1978). The book describes phonology, morphology and vocabulary of the language.

Kurumba got the attention of several scholars and the speech has attracted claims and counterclaims either as a dialect of Kannada (P.S. Subrahmanyam, G. Srinivasa Varma) or a dialect of Tamil (D.B. Kapp, K. Zvelebil) or a separate language (U.P. Upadhyaya). This large shepherd community is spread across the borders and depending on their location they seem to speak a dialect of Tamil or Kannada. Kapp's *Alu kurumbavu die sprache: Grammatik, Texte, wörterbuch* (Wiesbaden, 1982), G. Srinivasa Varma's *Kurumba Kannada: Pudukottai Kurumba dialect* (Annamalainagar, 1978); U.P. Upadhyaya's "Kurumba, a Dravidian language" and Zvelebil's article "Jenu Kurumba, first report on a tribal language of Nilagiri area" (1980) are worth mentioning. R. Perialwar while quoting Emeaneau opines (in a personal communication) that Betta Kurumba can be treated as an independent language, not a dialect.

The speech of the Kasabas was investigated by V. Chidambaranatha Pillai for his doctoral work. *Phonology of Kasaba with vocabulary* (Annamalainagar, 1976) gives an introduction to the Kasaba community and language in which the author puts forward a claim for an independent language status for Kasaba. Like the other books from Annamalai University, this also deals with phonemic inventory, distribution, classification, clusters and syllables. The vocabulary at the end is given with English translation but without marking even the grammatical category of the entries. Another book by the same author *A Grammar of the Kasaba language* (Annamalainagar, 1978) provides detailed statements with examples on the morphology of noun, verb, appellatives, adjectives, adverbs and clitics. There is a chapter on syntax and another on morphophonemics. Here again it is described in the framework evolved at the Annamalai University for the study of tribal languages. One expects a fresh approach at least from some of these books. Zvelebil thinks that Kasaba is a northern dialect of Irula.

Another problematic language is Urali which is claimed as a dialect of Tamil by some scholars and as a Malayalam dialect by some others. However, *A descriptive analysis on Urali – Speech of Dravidian hill tribe* (CIIL, Mysore, 1991) by Sam Mohanlal is a reliable description of the dialect in a different format and framework. The author provides a detailed ethnological information on the tribe in the introduction along with a comparison of the Urali speech with Tamil, Kannada and Irula. The chapter on phonology provides a detailed statement on vowels, consonants, contrasts, length, phoneme distribution, clusters, suprasegmentals, juncture, syllable structure, etc. The chapter on nouns gives exhaustive statements on the morphology including pronouns, substantives, derived nouns, gender-number system and case marking. The verb morphology is a very detailed account with classification of verbal bases, description of tense, mood, aspect, agreement system, verbal modifiers, particles, clitics, etc. Morphophonemics of the language is analysed with appropriate examples. The final chapter on syntax deals with sentences types, phrase structure, interrogatives, concord and sentence variation in the language. Of the recent books on South Dravidian tribal languages, the description of Urali by Sam Mohanlal stands by far as a unique work available. R. Perialwar suggests (personal communication) that Kasaba and Urali are dialects of Irula.

In his paper entitled "The Language of the Kadars" (1976). Z. Thundryil proposes that Kadar should be considered as an autonomous language. An unpublished Ph.D. thesis by J. Suresh, entitled *A Descriptive study of Kadar language of Annamalai hills* (Annamalai University, 1982) deals with the ethnological characteristics of the Kadar community, besides chapters on phonology, morphology and elementary syntax. The semantic fields of food, honey, honey-bees, hunting implements, plants and animals are presented in this work.

Another work published by the Annamalai University on *The language of Kattunaickas: A linguistic study* by S. Natanasabapathy (1986) provides cultural notes on the tribe; phonology, morphology and surface syntactic structure of the language. The vocabulary at the end might be of some use for comparative dialectal studies. In a paper on "The language of Cholanaickans" (IJDL 10, 1981) P. Somasekaran Nair depicts phonology with detailed statements and illustrations; and also the elements of noun and verb morphology. R. Muralidharan has prepared a Ph.D. thesis on the *Descriptive study of Cholanaickan* (Annamalai University, 1989). I had no access to this work. However, it is not clear (at least to me) whether Kattunaickan and Cholanaickan are two different languages or varieties of the same language or both of them are dialects of yet another language (Tamil/Malayalam) from out of the complex linguistic situation prevalent on the Kerala-Tamilnadu border.

There are several unpublished Ph.D. dissertations devoted to the investigation of certain speeches/dialects belonging to the South Dravidian. These include K. S. Gurubasave Gowda's *Descriptive analysis of Soliga* (Deccan College, Poona 1969); K. Kempe Gowda's *A descriptive analysis of Irula dialect* (Mysore University, 1974); S. Jayapal's *Descriptive grammar of Betta Kurumba* (Annamalai University, 1978); S. Jean Lawrence's *Descriptive analysis of Paniya* (Annamalai University, 1979) and D. Robert Sathya Joseph's *A Descriptive study of Mullu Kurumba* (Annamalai University, 1982). It is claimed by the scholars concerned that Soliga is a dialect of Kannada, Mullu Kurumba and Paniya are dialects of Malayalam; while Betta Kurumba is considered as a separate language.

The concept of 'Nilagiris as a linguistic area' has drawn the attention of M.B. Emeneau, Kamil Zvelebil and R. Perialwar. Though the languages in contact belong to the one and the same family, there have been interinfluences among them triggered by the grassroot bilingualism. The impact of major languages like Tamil, Malayalam

and Kannada on the minor and tribal languages is highly transparent both in vocabulary and grammatical structure. Perialwar has investigated the contact situation from the sociolinguistic points of view also.

The languages of South Kerala (Trivandrum, 1976) is an outcome of linguistics field-work conducted by the late Sudhibhushan Bhattacharya as a Senior Fellow of the DLA. It enumerates the names of different tribes, the places of their habitation besides a linguistic outline of the dialects. It serves as a reference work indicating the need for further research. Somasekharan Nair points out in his "Survey of the tribal speech forms of Kerala" (IJDL, 16, 1987) 'most of the investigations in the area of tribal speech forms have been conducted by the staff and students of the Department of Linguistics, University of Kerala and the Fellows of the DLA'. In his article, Nair presents his remarks and comments on the questionnaire for linguistic field-work and other methodological concerns of a field linguist. In another article Somasekharan Nair describes the phonological and morphological features of the Paniya and Adiya speech forms (IJDL, 14, 1986). His 'A note on the tribal speech investigations' (IJDL, 17, 1988) portrays his experience as a field linguist detailing the ways in which one should work with unsophisticated tribal informants.

Muduga language by N. Rajendran (1986) is a book length description of ethnology and language structure. The introduction dwells with the tribes of Kerala, their cultural traits, places of habitation and their position in comparison with the social hierarchy of the plains people. Madugas live in the Attappady tribal area as neighbours of the Irulas and Kurumbas, and consider themselves ritually superior to the other two communities. The chapter on phonemics describes the phonemes, their classification, distribution with contrasts, syllable structure and phonotactics. The morphology of verb and noun is presented within the Bloomfieldian structuralist model. Other grammatical categories such as adverbs, onomatopoeia, demonstratives, interrogatives, directionals and connectives are discussed under the dubious title of clitics; and there is no mention or description of genuine clitics or particles. The chapter on syntax divides sentences into simple, complex and compound (in traditional fashion) providing examples from Muduga. Under conclusion, the author tabulates comparative statements on pronouns and numerals from Muduga, Malayalam, Tamil, Kannada and Telugu in order to argue (though inconclusively) for the status of a 'distinct language' for

Muduga. The monograph also lists a sample vocabulary with English translation at the end.

After reading through the published works, one wonders whether any speech form of Kerala tribes can be treated as a language. As Somasekharan Nair points out (Quoted from Rajendran, 1986:47) 'The tribal languages in Kerala can be classified into five groups, viz,

Malayalam or dialect of Malayalam

Dialect of Tamil

Dialect of Kannada

Tulu or dialect of Tulu, and

Mixed language'.

The language versus dialect controversy, and non-existence of an acceptable methodology or criterion for the purpose indicate that there is a need for some more detailed linguistic field-works in South India, especially southern Tamil Nadu (including Nilgiris) and the entire State of Kerala.

SOUTH – CENTRAL DRAVIDIAN

The important researchers on this group have been T. Burrow, S. Bhattacharya, Bh. Krishnamurti, P.S. Subrahmanyam, M. Israel, G.V. Natarajan and B. Ramakrishna Reddy, among others.

3.3.1 GONDI AND ITS DIALECTS

Different dialects of Gondi attracted the attention of field-workers and a lot of data were collected and analysed during the last several decades. S. Bhattacharya reports his intensive research of the Muria dialect in his two papers "Muria adjectives" (1968) and "Muria morphology" (1968). Burrow and Bhattacharya brought out *A comparative vocabulary of the Gondi dialects* (Asiatic Society, Calcutta, 1960) incorporating the field-notes collected during 1957-58. This vocabulary enlists many items that did not find their place in the DED. It is a comprehensive list, in that, it accommodates identifiable items from previous works. The sources of this list are numbered as 34 out of which 14 sources are from the field-notes of Burrow and Bhattacharya spreading from Adilabad to Betul through Orissa and Maharashtra.

P.S. Subrahmanyam's monograph *A descriptive grammar of Gondi* (Annamalainagar, 1968) includes the Adilabad and the Koya dialects. It has phonology, morphophonemics and morphology on each dialect separately. The syntax of Adilabad dialect receives some attention within the generative framework of 1957. The vocabularies of each dialect are given separately along with the corresponding DED entry. There is an account of the position of Gondi in Dravidian comprising a detailed comparisons of phonology and morphology. His paper "The Gondi aspectual system: Some preliminary observations" (1979) is an attempt at explaining the structure and use of tense and aspect of the language.

Stephen Tyler investigated the Gommu dialect of Koya spoken in Bhadrachalam agency of Andhra Pradesh in his book *Koya: An outline grammar, Gommu dialect* (University of California Publications in Linguistics, 1969). There is an introduction, followed by an analysis of phonology, nouns, qualifiers and minor form-classes, verb morphology and a sketchy syntax. The appendix provides the text-analysis within an IC model. Tyler's ethnographic field-work on Koya is reported in several of his papers on Koya kinship and related topics. K. Rama Rao has conducted field work on Koya since 1977. His M.Phil. dissertation *Phonology and morphology of Koya language* (Osmania, 1969) consists of an introduction, the sound system, noun phrase, verb phrase and other grammatical categories. There is a lexicon at the end. His Ph.D. thesis *Syntax of Koya language* (Osmania, 1985) is an exploratory syntactic description with reliable data.

K. Pandurangachar studied the Parsi Gondi of Mandla and the Gondi spoken in Balaghat and Betul districts for his Ph.D. dissertation *Phonology and morphology of Gondi* (Ravishankar University, 1971). These materials are also used in two of his papers "Plural formation in Gondi" (1971) and "Pronouns in Gondi" (1975). Kirtilata Dutt did field-work with the tribes of Bastar for her doctoral dissertation *Studies in the language and literature of some of the non-Aryan tribes of Madhya Pradesh: Linguistic study of Gondi, Dhurwa and Dorli* (Ravishankar University, 1969). G.V. Natarajan of CIIL has been working on Abhuj Maria dialect of Gondi. In a paper "Adjectival concord in Gondi" (1977) he describes the agreement between attribute and head within a noun phrase which non-Dravidian feature is explained as emerging under the influence of intimate Indo-Aryan contact. W.J. Lincoln seems to have prepared a doctoral dissertation

entitled *A Descriptive analysis of Adilabad dialect of Gondi* (Cornell University, 1969).

Abujhmaria grammar (Mysore, 1985) by G.V. Natarajan is the latest reliable work on a Gondi dialect. It contains an elaborate ethnological and social details of the tribes under its introduction, followed by the linguistic analysis – phonology, morphophonemics, morphology (nouns, adjectives, numerals, verbs, particles and clitics), clause structure and phrase structure and finally with a statement on the comparative position of Abujhmaria within the Dravidian family. Natarajan has prepared a trilingual Gondi-Hindi-English dictionary and texts of the dialect.

In her Ph.D. thesis *Generative syntax of Gondi* (Poona, Deccan College, 1972), Susie Andres analyses the Gondi sentences within a generative syntactic framework. Phonological variation in Gondi dialects and the evolution of certain significant sounds from PDr have been investigated at the Osmania University. Eshwarchand in his M.Phil. dissertation *Study of sound change in Gondi dialects* (Osmania, 1982) deals with the development of *1 in various dialects of Gondi while Umamaheswara Rao's (1982) is a theoretical contribution to lexical diffusion pertaining to the sound change of $c > s > h > \emptyset$ in Gondi dialects. His investigations extend to a new sub-grouping of Gondi dialects, a reanalysis of Gondi pronouns and identification of Indo-Aryan impact on Gondi. His Ph.D. thesis *A comparative study of Gondi dialects with special reference to phonology and morphology* (Osmania, 1987) is concerned with a historical study of the phonological and morphological developments in Gondi dialects, based on his extensive field data covering the entire region. Thus it is clear that Gondi is analysed from different perspectives and it is getting the deserving attention from scholarly world.

As a DLA's Junior Fellow, T. Venkataswamy of the Dravidian University has been conducting field-work on Gondi spoken in the interior areas of Adilabad district. He has prepared a Gondi-English-Telugu dictionary; and Gondi folk literature with Telugu and English translations. These data will be utilised in a grammar of Gondi to be prepared by the Fellow and B. Ramakrishna Reddy. K.Ramesh Kumar of the Linguistics Department, Osmania University is also conducting linguistic field-work on the Gondi dialect of Adilabad. He and Venkataswamy have published a paper on 'Agreement system in Gondi' (2000).

Sudhibhushan Bhattacharya discovered the Kōṇḍa language in 1951 during his field-work in the wilds of Koraput and Salur. He has published a paper "Kōṇḍa language: Grammar and vocabulary" in *The Bulletin of the Department of Anthropology* (1956). Burrow and Bhattacharya collected further data on the language in 1957-58 and these materials are included in the DEDS.

Bh. Krishnamurti's *Kōṇḍa or Kubi: A Dravidian language* (Hyderabad, 1969) has been serving as a model for several scholars analysing the unwritten Dravidian languages since its publication. The book is divided into three parts—texts with English translation, grammatical outline and vocabulary. There is an introduction containing certain aspects of the cultural organisations of the Kōṇḍa tribe, which is a succinct statement of anthropological perspective. The nine folk tales with English translations disseminate enormous cultural information on the tribe and these texts can profitably be used for an in-depth study of Kōṇḍa syntax, which is missing in the book. The second part on grammar consists of phonology, sandhi, word classes, nouns, adjectives, verbs, adverbs, connectives, clitics and an elementary syntax. The methodological rigour of modern structural linguistics can be found throughout this monograph. The present writer has also conducted some field-work on certain lexical semantic aspects of Kōṇḍa in Araku valley under the aegis of the CIIL.

THE KONDH LANGUAGES

The Kondh tribe is mainly spread over Phulbani (Baudh-Khondmals), Koraput, Kalahandi, Rayagada, Navarangpur, Malkangiri and Ganjam districts of Orissa and the adjacent border districts of Visakhapatnam and Vizianagaram of Andhra Pradesh. To-date there are five languages recorded as spoken by this single ethnic tribe namely, – Kui, Kuvi, Pengo, Manda and Indi-Awe. 'Kondh languages' is a broad generic term denoting these five languages. They have acquired certain non-Dravidian grammatical features over thousands of years of their intimate contact with the Munda and Indo-Aryan languages. The presence of glottal stop, person-object agreement, motion-particle incorporation, morphologization of plural (frequentative) action and vigesimal counting system appear to be a result of linguistic convergence between Dravidian and Munda. The influence of Indo-Aryan is too obvious to mention here. The study of

the structural properties of these languages will throw fresh light on the 'Indian linguistic area' hypothesis proposed by Emeneau.

After the publication of Winfield's Kui grammar in 1928 and the investigation of Kutia Kondh by Burrow and Bhattacharya (1961), there has not been much fresh field-work on Kui. Watkin (1975) made use of Winfield's data in reanalysing the phonological component of Kui verb in "Some phonological rules for the Kui verb" (1975).

The Department of Linguistics, Osmania University has conducted a survey of the dialects of Kondh languages with Ramakrishna Reddy as its principal investigator. As a part of this programme T. Nagaraja Chetty's dissertation (1984) on the *Kutia dialect of Kui* gives a structuralist descriptive account of phonology and morphology, with a number of texts and vocabulary items. The exploratory field-work has brought out fresh data, which deserve to be compared with that of Winfield's. C. Maheswaran of Annamalai University has conducted field-work on Kui dialects with particular reference to some ethnolinguistic aspects for his Ph.D. studies.

The other important member of the Kondh group, Kuvi, had many linguists conducting field-work on it during this period. The Central Institute of Indian languages, Mysore has entered into a collaboration with the Government of Orissa on bilingual education of the Kuvi children in 1971. Extensive field-work on Kuvi dialects spoken in Rayagada, Laxmipur, Rayakona, Bissamecuttack and Muniguda areas was conducted by Ramakrishna Reddy in 1971-72 under this project. It was further carried on by Joy Reddy. The analysis of these materials appear in the following publications:

1. *Kuvi phonetic reader* by B. Ramakrishna Reddy, S.P. Upadhyaya and Joy Reddy (CILL, 1974). As the title indicates this booklet attempts to describe the sounds of Kuvi for a non-native speaker. It also adapts the Oriya script for Kuvi. The presence of glottal stop and nasalization as functional sounds is an acquired unique non-Dravidian feature in Kuvi, the source being Munda and Indo-Aryan respectively.
2. *Kuvi-Oriya-English dictionary* (CILL, 1995) by B. Ramakrishna Reddy, Joy Reddy and B.P. Mahapatra. In accordance with a format of bilingual education materials projected by the CILL, the dictionary has four columns on each page, representing (i) Kuvi entry in Oriya script with a label indicating part of speech, (ii) the same word in Roman script, (iii) meaning in Oriya, and (iv) meaning in English. The

practical utility of the dictionary lies in the fact that a Kuvi native speaker can use it to find English and Oriya equivalents for his chosen item. Conversely it can be helpful for Oriya or English knowing people to notice Kuvi equivalent. The dictionary treats Rayagada dialect as the standard one and marks other variants as L (Laxmipur), RK (Roykona) and D (Dongria Kondh). There is a need to publish a Telugu version of this work for the use of Kuvingas living in Andhra Pradesh.

3. Kuvi texts were collected, transcribed and translated into English by Ramakrishna Reddy. Joy Reddy transliterated the texts into Oriya script and B.P. Mahapatra translated the literature into Oriya. Thus the *Kuvi Folkliterature* (CHIL, 2000) is a joint product of a collaborative academic activity. It consists of three parts – (i) twelve tales (ii) twenty songs and (iii) thirtyfive riddles. Here again, on each page there are four rows consisting of (i) Kuvi text in Roman (phonemic) script, (ii) the same in Oriya script (iii) English translation and (iv) Oriya translation. This book provides graphic representation of the tribal oral literature in the local script. As the native reader is familiar with the content, he finds it easy to read and understand. Thus a smooth transition from mother tongue to Oriya is expected to be supported by this book and the dictionary. The volume also provides an introduction to the tribe, a map of the area and the method of graphization of Kuvi into Roman and Oriya scripts. Another volume of Kuvi literature with Telugu and English translation is under preparation by Ramakrishna Reddy for publication by the Central Sahitya Academy, New Delhi.

4. *Kuvi grammar* (Mysore, 1979) by Joy Reddy is a descriptive work consisting of phonemics, noun and verb morphology with some notes on syntax.

5. B. Ramakrishna Reddy's paper "Some aspects of negation in Kuvi" (1974) analyses the negative particles within a transformational generative model. He has recently carried out an extensive data collection of the Sunkarametta dialect for a synchronic comparison of phonological, morphological and syntactic aspects of Kuvi dialects. The investigations also reveal the direction and extent of the influence of Telugu and Oriya on the local dialects of Kuvi.

M. Israel has been conducting field-work on Kuvi parallel to the CIIL project. The outcome of his research is *A Grammar of the Kuvi language with texts and vocabulary* (DLA, 1979). It consists of sections on phonology, morphophonemics, nouns, adjectives, verbs, adverbs, clitics and a sketch of syntax. There are sixteen texts with English translation and a vocabulary list of 4,000 entries. Israel has published several papers on Kuvi such as "Kuvi verb: a few noteworthy features" (1972) "Verbal stem classes in Kuvi" (1974) and "Modality in Kuvi language" (1974).

Burrow and Bhattacharya identified Pengo in 1957 and their field data are analysed in their important publication *The Pengo language: Grammar, texts and vocabulary* (Oxford, 1970). The monograph includes material on six different dialects of Pengo of Nowrangpur area. In their preface the authors indicate certain special characteristics of Pengo and its close relationship with Manda. The main body of the book falls into three sections – grammar, texts with translation, and vocabulary. The section on phonology deals with the synchronic status and the diachronic development of Pengo sounds. The morphology and syntactic patterns of the language are dealt with under such sections as the noun, adjective, numerals, pronouns, verb-finite, non-finite and periphrastic constructions. This is one of the best works of the period to have come out on any Kondh language.

During my linguistic survey of Rayagada-Kalahandi border highlands, I came across a dialect of Pengo known as Avut (not noticed by Burrow and Bhattacharya). Subba Rao's M.Phil. thesis *Avut, a Dravidian speech: Phonology, morphology, texts and vocabulary* (Osmania, 1982) describes this dialect in detail with statements on phonology and morphology together with texts and lexicon. This dialect shares several features with Manda as well.

Manda was discovered as an independent language in 1964 by Burrow and Bhattacharya while working on Pengo. They interviewed some more Manda informants in 1966. The vocabulary items from their field-notes appear in DEDS. In their preface to the *Pengo language* the authors have expressed their intention to bring out a book-length work on Manda. But the project has to be abandoned since then (as informed by Professor Burrow in a personal communication). Burrow's article "A sketch of Manda grammar in comparison with Pengo" (1976) is the only published work on this language by these scholars. On comparative evidence Burrow has decisively pointed out that Manda and Pengo are two different

languages. I have picked up the work in 1979, where it is left by Burrow and Bhattacharya and have been conducting field-work on the Manda spoken in the Thuamul Rampur block of Kalahandi district, Orissa. Many papers were prepared on this language covering such as morphosyntactic and semantic problems as person-deixis, demonstratives, numeral system, non-Dravidian element, agreement features, tense and aspect, semantic fields of lexical structure and several others. I have also edited and translated the Manda texts and compiled a dictionary of the language. A concise grammar of the language is under active preparation. Ramakrishna Reddy's publications on Manda cover the following topics:

'Non-Dravidian element in Manda syntax: A study in linguistic convergence'. *Osmania Papers in Linguistics*, Vol.6, 1980. Pp. 71-88.

'Language and ethnic identity: A case study of the Kondh tribals'. *Asian Studies*, Calcutta, Vol.4, No.2, 1985. Pp. 28-38.

'Constraints on consonant combinations in Manda' (Co-author: K. Nagamma Reddy). *Osmania Papers in Linguistics*, Vol.12, 1986. Pp.36-57.

'Tense and aspect of Manda'. *Osmania Papers in Linguistics*, Vol.13, 1987. Pp.20-36.

'Predicate agreement in Dravidian'. *PILC Journal of Dravidic Studies*. Vol.1, 1991, pp.33-44.

'Spatial deixis in South-Central Dravidian'. *Studies in Dravidian and general linguistics: A festschrift for Bh.Krishnamurti*, edited by B. Lakshmi Bai and B. Ramakrishna Reddy, CASL, Osmania University, Hyderabad 1992 pp.161-175.

'Syntactic convergence in the central Indian languages'. *Sri Korada Ramakrishnaiya Centenary Festschrift* edited by K. Mahadeva Sastri. Visakhapatnam: Sita Trust, 1992. Pp. 570-577.

Language, education and literary development: 'The case of central Indian tribals'. *South Asian Language Review*. Vol.6 No.2, 1996, pp.49-55.

'Agreement in Manda: Grammar and Pragmatics'. In *Agreement in Dravidian Languages*. 2000 pp.224-241.

Indi-Awe is the latest member of the Kondh-group to join the ever Increasing list of tribal Dravidian languages. It was discovered in 1979 by B. Ramakrishna Reddy during his field-work on Manda. It is spoken in the Kashipur block of Rayagada district and in the Gopalpur Panchayat of Kalahandi. The number of speakers is estimated to be any where between 8000 to 10,000, B. Ramakrishna Reddy has

prepared *Vocabulary of Indi-Awe* (1979, Osmania, mimeo) consisting of 1000 entries approximately.

Indi-Awe is an intermediary between Pengo and Manda, though it shares certain features like glottalisation with Kuvi. A somewhat detailed statement on its phonology and morphology is attempted by Ramanaiah in his M.Phil. dissertation *Indi-Awe: Phonology and morphology* (1982, Osmania). He has collected the data in Sungeri of Kasipur in Rayagada district. A further detailed work on this speech is taken up by the present author under the Endangered Languages Scheme of CIIL to investigate many of the problems involved. A paper 'Indi-Awe, a tribal Dravidian speech' was presented to the International Conference on South Asian languages (SALA) JNU, 1997.

In a paper entitled "The genesis of polypersonal verbs in South Central Dravidian" (1980) Sanford Steever addressed himself to the problem of origin of pronominal incorporation in the Kondh languages. The status of demonstrative pronouns in some of the South Central Dravidian languages is investigated by Israel in his paper "Demonstratives in Kūbi, kūʔl, Kūvi" (1977). Drawing his data from the published sources, Sanford Steever has proposed the historical processes of internal development for the formation of polysynthetic verb structure in the Kondh languages in his book *Analysis to synthesis: The development of complex verb morphology in the Dravidian languages* (1993, Oxford University Press). On the other hand, Emeneau thinks that the complex morphology is a product of areal convergence under the impact of Munda languages. My field investigations on the Dravido-Munda contact situation carried out with the historical-typological perspectives support the proposals of Emeneau.

The present writer, during his several trips on linguistic field-work, has collected intensive and extensive data on Kuvi (and its dialects), Manda, Indi-Awe and Avut, a dialect of Pengo. These data are under process of analysis for publication of grammar, texts and vocabulary on each language, besides a comprehensive study on the structure of Kondh Dravidian. The interinfluences among Kondh Dravidian, South Munda and Indo-Aryan have been investigated by him in some detail.

3.4 CENTRAL DRAVIDIAN

Kolami, a Dravidian language (Annamalai University, 1961) by M.B.Emeneau is one of the best works on Central Dravidian. The

volume contains an introduction to the tribe, phonology (phonemics and morphophonemics), morphology of adjectives, nouns and verbs; form and content of echo-words, postpositions, conjunctions, interjections, etc. There is a chapter on syntax, and finally the comparative position of Kolami within the Dravidian family is indicated. Two texts are given. Vocabulary consisting of above 3000 items is presented dialect-wise, along with an index at the end.

The Summer Institute of Linguistics has chosen Kolami as one of the languages for investigation under their project on *Patterns in clause, sentence and discourse in selected languages of India and Nepal*. The article on "Clause Patterns in Kolami" (1973) by Norman and Helen McNair is a book-length publication within the tagmemic framework. It deals with the basic patterns of clause, the derivational and inflectional morphology. There is a list of Kolami words in the fourth volume of the series. K. Thomas (1986) has analysed the descriptive and comparative structure of the Naikri dialect of Kolami spoken in the Nanded area. P.S. Subrahmanyam has conducted field-work on the Adilabad dialect.

The Parji language: A Dravidian language of Bastar (Hertford, 1953) by Burrow and Bhattacharya is a product of their 1950-51 field trip. In the preface to the book the authors refer to the problem of correct identification of a less-known language in the linguistic symbiosis of Bastar. The book is divided into three parts: grammar, texts, and etymological vocabulary. The entire grammar is presented in 100 sections which can broadly be grouped into seven chapters, one each on orthography and phonology, noun, adjectives, numerals, pronouns, verbs and adverbs.

This grammatical outline shows insightful observations on many morphosyntactic problems. The structure of noun is analysed under the grammatical categories of gender, plural formation and declension (i.e. case syntax). The various functional relations that obtain between the two members of a nominal compound are copiously illustrated from Parji. Adjectives are treated under two divisions of attributive and predicative. With predicative nominals the language shows equational sentences. One of the noteworthy features of Parji (which it shares with Gondi and Naiki) is the presence of copulative *āy* 'to be, to become' even in the unmarked contexts of present tense, but *āy* is not conjugated for any agreement features. When agreement is required

Parji uses another copulative 'be' *er*. These two are different from the locative-existential 'be' of *man*.

Regarding the numerals it is observed that only first five are native and the rest are borrowed from Halabi. But one has no way to know as to how the compound and complex numerals are composed in this language. Pronouns and their declension are given under personal, reflexive, demonstrative and interrogative. The morphology and syntax of verbal piece covers the composition of the root, tense, mood, aspect under finite verb; and non-finite forms include conjunctive and relative participles and conditionals. Finally negative formations and adverbs are presented with illustrations. However, the first section on phonology is somewhat unrevealing about the nature of sounds involved, as the authors are more worried about a comparative statement on the sounds. The basic methodology and organisation of the book is based on the European traditional grammar with the added dimension of looking at Parji with a comparative viewpoint rather than confining to its structure alone.

The texts in part II are very helpful for linguistic as well as ethnological studies. The etymological vocabulary is unique and first of its kind in that it appeared as a predecessor to such works as Emeneau's *Kolami*, Krishnamurti's *Telugu verbal bases*, and *DETD*. Since the publication of the Parji grammar, many scholars utilised its materials and unfortunately no scholar has brought out any new work on this language after Burrow and Bhattacharya.

S. Bhattacharya identified Naiki as a separate language in 1950. On the basis of his field data he published a paper "Naiki of Chanda" (*Indo-Iranian Journal*, 5: 1961). The article provides an overall introduction to the language with a sketch of sound system and word structure. The available materials on syntax show that Naiki overtly shows the copulative predicates in equative constructions (unlike Telugu) e.g. *avan arsan ānen* 'He is a king'. There has not been any work on this language since then. I am told that a Ph.D. thesis is recently completed on Naiki at the Annamalai University.

Gadaba tribal community is intriguing in having one ethnic group speaking languages of different families, i.e. the Gutob (Gadaba) of Munda group; and Dravidian Gadaba with two dialects – Ollari of Koraput and Konekor of Salur. The Ollari Gadaba was identified by Bhattacharya in 1951. His monograph *Ollari: a Dravidian speech* (Delhi, 1957) starts with an introduction which details the author's field expedition and preliminary data to establish Ollari as an

autonomous language. Part one consists of phonology, sound changes and a comparison of sounds. Part two presents morphology of nouns, pronouns, adjectives, adverbs and verbs. Part three gives a comparative vocabulary.

P. Bhaskararao has investigated the Konekar Gadaba of Salur in Andhra Pradesh in his monograph *Konekor Gadaba: a Dravidian language* (Poona, 1980). The book contains a detailed statement on phonology, morphophonemics and morphology of noun and verb. There is no syntactic analysis. Only two texts are given along with the vocabulary.

3.5 NORTH DRAVIDIAN

Among the non-literary Dravidian, Kurukh (Kurux) is unique in having had a native speaker-linguist in Francis Ekka. He has published on several aspects of the Kurukh language. His doctoral dissertation *A descriptive study of Kurukh* (Madurai University, 1972), if published, would have been an authentic work. Kurukh is probably the only Dravidian language exhibiting grammatical differences between the speech of men and women. This interesting sociolinguistic phenomenon is described in "Men's and women's speech in Kurux" (1972) by Ekka. His other papers include "Causative construction in Kurux" (1972), "Description of modals in Kurux" (1974) "Causative constructions in Kurux" (1972); "Language loyalty and maintenance among the Kuruxs" (1979) and "Some aspects of Kurux aspect" (1979). Francis Ekka's *Kūṛux Phonetic Reader* (CIIL, 1985) indicates an imprint of native speaker's analysis of his language. The volume has an introduction, description of speech organs, vowels, consonants, phonetic drills, phonemes and use of Devanagari script for the language. Each point is illustrated with reliable data accompanied by phonetic transcription. Unlike some other readers in the series, this one stands as a more usable and reliable book.

D.R. Vesper has studied Kurukh syntax within a transformational framework in his dissertation *A generative grammar of Kurukh* with special reference to verbal system (Chicago, 1971) and he has published another paper "A generative grammar of Kurukh copula" (1968).

D.N.S. Bhat has turned his attention to Kurukh in a series of papers "Kudux pronouns" (1965), "Kurux nouns" (1966) "Kudux indicatives" (1970) and "Velar consonants in Kudux" (1970).

G.Vijayavenugopal's article "Adjectives in Kurukh" is based on the speech of Ekka. Linguists of the Summer Institute of Linguistics identified the Dhangar-Kurukh dialect spoken in the Morang and Sunsari districts of Southern Nepal and K.L. Pike and K.H.Gordon have published three papers "Preliminary technology to show emic relations between certain non-transitivity clause structure in Dhangar-Kudux" (1972) "Paired semantic components: Paired sentence reversals and the analysis of Dhangar Kudux discourse" (1973) and "Clause patterns in Dhangar-Kurukh" (1973).

Martin Pfeiffer's *Elements of Kurukh historical phonology* (Leiden: E.J. Brill, 1972) is a unique volume of its kind in that it is the only historical work on a single tribal Dravidian language. The author has adopted the historical comparative method in comparing the sounds of Kurukh with other Dravidian languages especially with Malto and Brahui. Each sound is explained showing its historical development from the Proto-Dravidian. The importance of this volume can be estimated from the attention it attracted from Burrow, Emeneau, Andronov and George Meir through their scholarly reviews.

A Ph.D. dissertation entitled *Word formation in Kurukh: A study of linguistic typology and language change* (JNU, 1991) by Awadhesh Mishra is an attempt at describing the typological characteristics of Kurukh as a South Asian representative and to indicate the influence of Indo-Aryan and Munda languages on the morphology and syntax of Kurukh. The author's observations are based on fresh data he obtained laboriously from his field-work.

Structure of Malto (Annamalainagar, 1973) by A. Sisir Kumar Das is an elementary outline of phonology and morphology of the language. The publication of B.P. Mahapatra *Malto: An ethnosemantic study* (Mysore, 1979) is based on his field-work of three dialects. It has an introduction followed by a chapter each on phonology, noun, adjective, verb, adverb, function-words, and a comparative notes on Malto dialects. There are also brief texts appended to the monograph. In a paper on "Malto object classifiers" (1973), Mahapatra describes the underlying semantic features controlling the selection of various classifiers of the language. The recent survey of Malto by the scholars of ISDL might reveal some more salient features of the language.

Brahui and comparative Dravidian grammar (UCPL, 1962) by M.B. Emeneau establishes beyond doubt that Brahui is a member of the Dravidian group of languages on the basis phonological,

morphological and lexical comparisons. Other areas of Brahui structure that Emeneau has explored in detail include "North Dravidian velar stops" (1961); "New Brahui etymologies" (1962); "Linguistic desiderata in Baluchistan" (1964); "Bilingualism and structural borrowing" (1962); "Brahui demonstrative pronouns" (1961); "The Brahui language" (1980); Brahui laterals from Proto-Dravidian" (1980); "Brahui Vowels" (1980); and "Brahui Personal Pronouns: First singular and reflexives" (1992). Most of the articles of Emeneau on Brahui are included under a special section in his collected papers of 1980 *Language and linguistic area* edited by Anwar S.Dil and published by the Stanford University Press.

Tracing the development of Brahui nasals from proto-Dravidian is the theme of Bh.Krishnamurti's paper "Dravidian nasals in Brahui" (1969). R.C.De Armon reanalyses the verb in the transformational model in his paper "The grammatical morphemes of the Brahui verb" (1971). He investigated the phonology pertaining to the verbal piece in another paper "Some rules of Brahui conjugation" (1975). David McAlpin raises the question "Is Brahui really Dravidian?" (1980) and puts forward some unconvincing arguments to show that Brahui is not a member of North Dravidian and it is only indirectly related to Dravidian as proposed by Caldwell.

S.M. Kamil Al-Qadri in a popular article "All about Brahui" (1972) informs about the Brahui people, language and literature along with his experiences of Baluchistan. Hans Stressr's travelogue "A short report on the encounter with Brahui speaker on a journey through Persian Baluchistan" makes an interesting reading of his experience of learning Brahui with the help of a not too competent a speaker. However, there is the desiderata of fresh Bahui materials for linguistic analysis since the time of Sir Denys Bray. Besides comparative study involving Brahui, M.B. Emeneau has published several articles on the lanuage. "Brahui demonstrative pronouns" (JAS, 1961); "North – Dravidian velar stops" (1961) and others.

M.S. Andronov has brought out a monograph *The Brahui language* (Moscow, 1980) making use of data from secondary sources mainly from the works of D.D. Bray. However, the book consists of an introduction, phonetics, phonemics, history of sounds, morphology of substantive, adjective, numeral, pronoun, and the verb. Elementary syntax with sentences as simple, complex and compound is also given. The work is a restatement of earlier originals with neither fresh data nor different analysis.

Josef Elfenbein has published several research articles on Brahui which include "The Brahui problem again" (*IJJ*, 25, 1983); "Brahui supplementary vocabulary" (*IJJ*, 1983); "Notes on the Balochi Brahui commensality" (*TPS* 1981-82), the last one deals with the problem of Brahui contact with Balochi and who it is influenced by the latter. He has also contributed a chapter on Brahui to the *Dravidian languages* (1998 AP 388-414) edited by Steever. The article provides an introduction (habitat and speakers; history, dialects etc.), phonology, morphology of nouns, postpositions, pronouns, adjectives, numerals, verbs and lexicon. There are introductory statements on syntax with copious examples.

RESIDUAL PROBLEMS AND DESIDERATA

In this section some of the problems relating to the role of tribal languages for our understanding of theoretical linguistics in general and Dravidian linguistics in particular are pointed out with an intention and hope of a detailed investigation of these areas by competent scholars.

4.1 COMPARATIVE LINGUISTICS

The intensive and extensive data from tribal Dravidian languages in phonology, morphology, syntax, lexical studies, semantics and pragmatics are very crucial for comparative Dravidian linguistics in that there are several stages of historical development which the major languages like modern Tamil, Kannada, Telugu etc., have lost but the tribal languages have retained the proto-forms. For example what modern Tamil has lost (when compared to old Tamil) is reliably retained by Kondh languages in their three way deictic system.

4.2 DIALECTOLOGY :

One of the problems that one repeatedly faces while working on the tribal languages is the identification of a particular speech whether it is a language or a variety (dialect) of another language. Many times the linguist's criterion of intelligibility alone does not serve the purpose as the attitude of the speakers and their assertion also deserve to be taken into consideration while making such a decision. For

example, there is certain amount of mutual comprehension between the speakers of Pengo and Manda but the native speakers assert that they speak different languages. However, it is interesting to note that the illiterate unsophisticated tribal people are aware of a standard variety within their language. For example the speakers of Laxmipur, Roykona and Muniguda dialect of Kuvi recognise and accept the Royagada dialect as the standard variety. For a linguist it requires more probing and enduring work with the informant to gather such insights into the attitude of the tribal groups.

4.3 LANGUAGE CONTACT AND LINGUISTIC CONVERGENCE

By and large the tribal Dravidian speakers are bilingual, in several instances they are also multilingual. This has been a sociolinguistic characteristic of the tribal groups over the last four centuries or so. Consequently their languages have been heavily influenced by the major languages of the region in phonology, morphology, syntax and lexical structure. A situation has been reached where there are more similarities among tribal languages and a major lingua franca of the region. Between Kuvi and Desia Oriya, the tribal languages have not always been exclusively recipients but donor languages as well. For example the tribal dialects of Southern Orissa have highly affected the structure of local spoken Oriya. Having tribal Dravidian languages as participants the Nilgiri linguistic area, Central Indian Dravido-Munda-Aryan contact and the Chotanagpur linguistic region have evolved as best representatives of South Asian language contact and linguistic convergence.

4.4 SOUTH ASIAN TYPOLOGY

Most of the so-called South Asian typological studies are confined to the major Indian languages, hardly incorporating the data from the tribal Dravidian languages. Consequently scholars have been portraying a partial picture of South Asian typology, with few exceptions. A thorough investigation of tribal languages from the perspective of typology will only yield substantive and reliable typological traits and regional universals. A typological study of tribal

Dravidian languages of Central India in combination with the Munda and Indo-Aryan languages of the region has led to notice typological similarities across genetic boundaries.

4.5 SOCIOLINGUISTIC STUDIES

The tribal languages are an ocean of data for sociolinguistic aspects of ethnography of speaking, terms of address and reference, sociocultural history of the tribal communities, sociopragmatics of interpersonal relations in a homogeneous community, their attitudes towards other linguistic groups and about their own speech etc deserve to be undertaken for an indepth study. Though there have been some works in this area the Dravidian linguistic communities living throughout South India and Central India have yet to receive proper attention from qualified and trained scholars. Sociolinguistic study of bilingualism, multilingualism, patterns of communication, the problem and emergence of link languages, pidginization, creolization etc., with particular reference to tribal Dravidian, ethnolinguistic analysis of tribal languages from an inter-disciplinary point of view etc., will reveal the cultural values, past and present, of the speakers thereby forming a guide to their cultural history. A new discipline of linguistic archaeology is essential for an understanding of the intricacies of the interaction of language, culture, mind and society.

LINGUISTIC FIELD-WORK AND SURVEY

Though there have been many attempts to carry out field-work on tribal Dravidian languages, still there are many aspects of phonetics, grammar, lexicon, semantics and pragmatics which are left out without explanation.

The tribal languages are under great pressure from their neighbouring major languages and consequently some of them are endangered in the sense that the speakers are loosing their own language by opting for a major language. If this situation continues it would be suicidal for linguistic variety and linguistic heritage of India. Hence there is an urgent need to record the minor and tribal Dravidian languages while reliable native speakers are still available. The *Dravidian Etimological Dictionary (Revised)* has incorporated some of the fresh lexical items from the recent works, but it has restricted its entries upto 1997. During the last two decades many books were written and published on several tribal languages and vocabulary from

these languages and dialects have to be incorporated into the DED. Some lexicographer with training in comparative method and historical linguistics will have to undertake this enormous, but fruitful work to preserve the Dravidian words and culture.

4.7. PREPARATION OF DICTIONARIES

Preparation of people-oriented primers and dictionaries for spreading literacy – both through bilingual schooling for children and adult literacy classes under non-formal education is essential. Linguistic problems of neoliterates and how a linguist can assist in this domain, through a systematic observation and analysis of the languages and contribute to the area of language planning and language development, have to be taken up in right perspective. Preparation of bilingual/trilingual dictionaries from tribal languages to major language(s) and vice versa which will be pedagogical/comprehensive dictionaries need to be planned and executed.

4.8. TRIBAL LITERATURE IN TRANSLATION

Tribal lore consisting of folk tales, folk songs, narrations, idioms, proverbs riddles and special expressions of discourse should be recorded. Translation of tribal (oral) literature to other major Indian languages and English and vice versa is needed. Linguistic aspects of folklore and the importance of texts for anthropological and linguistic analyses, hardly need any emphasis.

4.9. LANGUAGE ANALYSIS

Descriptive grammars of the languages with phonology, morphology, syntax, semantics and pragmatics, including unique traits of the structure of each language should be written. With regard to material production, linguists in collaboration with educationists and psychologists can prepare primers and other text-books in the tribal languages for literacy development through production of materials in tribal languages with familiar content(s) as lessons.

5. CONCLUDING REMARKS

An attempt has been made in this survey to indicate important works on the Dravidian tribal languages spanning a period of two

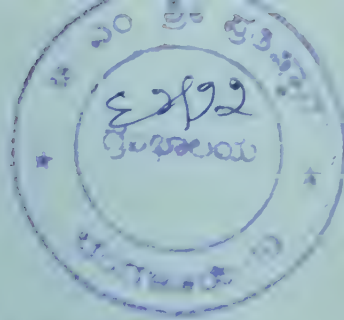
centuries, i.e. from 1800 to 2000. The non-recognition of minor and tribal languages continued in terms of not taking note of them by the Indian scholars until the late 19th century. It is the works of the European missionaries and administrators that have paved the way to take up the investigation and description of minor and tribal languages seriously. Robert Caldwell and his contemporaries have provided the background by drawing the attention of scholarly world to the structure and lexicon of these languages. To identify Dravidian as a separate entity, independent of Sanskrit itself was one of the landmarks during that period. By the later half of the 19th century, more tribal languages were discovered and the beginning of the 20th century has seen continuation of similar works.

The Linguistic Survey of India by Sir George Grierson, though a breakthrough in Indian linguistic study, has not paid much deserved attention to the Dravidian languages. However, during the first half of the 20th century, Departments of linguistics started getting established in India and also the European and American scholars like Emeneau, Burrow and others started conducting serious linguistic work on these languages. The contemporary period from the 1950's onwards has seen an exploration into different tribal languages both in South, North and Central India. As Burrow and Emeneau point out in the DEDR, there is still need for much more intensive and exhaustive linguistic field work in these areas as it will enhance our understanding of tribal Dravidian linguistics.

This state of the art survey has been very selective and preliminary. I am aware that there are several works to which I had no access and hence they could not be surveyed here. However, a short survey of this type may provide the necessary background and impetus for further research and a more detailed review, so that we will know where we stand in terms of progress in Dravidian linguistics.

A NOTE ON BIBLIOGRAPHY

A separate bibliography (references) is not provided at the end as the sources of the articles and books have been part of the survey and are discussed in the main body of the paper itself.



SURVEY OF BENGALI DIALECTS AN OVERVIEW¹

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INTRODUCTION

Dialect is a subject which has for many years, been fascinating a large number of people. Many of them believe that differences in speech between different areas are an attractive and important feature of local life. Some complain about the progressive disappearance of dialects and try to preserve it through writing, compiling lexicons, etc. On the other hand, the term dialect, to a linguist means a distinct form of a language. That is to say that the dialects are the various different forms of the same language, be it *regional*, spoken in a certain geographical area, *social*, spoken by members of a specific social group or class and *ethnic*, sometimes referred to as tribal, spoken by the communities with tribal ancestry. However, many a time, regional, social and ethnic factors combine and intersect in various ways in the identification of dialects.

With the above perspective of dialects of a language in mind, I am trying humbly to present here an over all picture of the Bengali language and its dialects through the studies made available from different sources which I could utilize for this end.

Bengali is the native speech comprising more than 60 million speakers, of whom the majority is settled in West Bengal, Tripura and Cachar district of Assam. According to 1991 Census, the Bengali

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speakers in India were 69,595,758. The Bangladesh Bengali speaking population is, however even larger than that of India.

Immediate neighbours of Bengali are Assamese, Oriya and Maithili (Bhojpuri/Magadhi) speeches. They are also its closest cognates. Having been evolved from the Magadhan Prakrit. Bengali and Assamese originated from a common group of dialects very close to each other.

Bengali speech area through its spread in the two countries, i.e. India and Bangladesh, which till 1947 constituted one province of a single predominant language, i.e. Bengali, has never been systematically investigated with regards to the ramification of its dialect regions, which are known to be considerably divergent. Yet linguists (Grierson, 1903, Chatterji, 1926, Sen 1975) have found well marked groups of Bengali dialects covering the eastern region.

According to Grierson, Beams was the first writer to draw attention to the necessity of putting on records what the people really spoke. Since then Grierson in his Linguistic Survey of India succeeded in exploring the Bengali dialects. He made a two-way distinction in dividing the Bengali language into dialects: one was the literary dialect, considered practically the same all over Bengal, but used only in books and newspapers or when speaking formally and the other was the colloquial form of Bengali which has several dialects. Of course, he had mentioned an in-between variety which was more or less a refined version of the dialect. Unlike the first, about the second, Grierson observed that the change from one to other is so gradual that it was impossible to say where any one of them begins or ends. However, he recognized two main branches, a western and an eastern ones.

<u>Western</u>	<u>Eastern</u>
1. Standard dialect spoken in and around Calcutta and Hooghly	1. Dacca (Standard East Bengali)
2. South-western (Central Midnapur)	2. Rajbangsi (Rangpur area), called ' <u>Bahe</u> ' in Darjeeling Terai
3a) North Bengali (between Purnea, and Rangpur)	3. Khulna, Jessore, Eastern half of Gangetic delta
b) Koches with traces of TB	
4a) West of West Bengal (affected by Bihari languages)	4. North-Eastern Tripura. Maimansingh, Sylhet, Cachar

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|---|--|
| 5) Kharia Thar, Pahariya Thar, Malpahariya spoken by the tribals (possibly influenced by Austric and Dravidian languages) | 5. Haijong/Hajong (around Surma valley and Maimansingh, mixture of Bengali and Tibeto Burman languages)
6. South-Western dialect (Noakhali, Chittagong)
7. Chakma (having the written Character) |
|---|--|

According to Suniti Kumar Chatterjee (1926), the dialects of Bengali fall into main classes agreeing to four ancient divisions of Bengal: Radha: Pundra or Varendra; Vanga; and Kamarupa. Then he gave further details of the dialects identifying them with the districts where they are spoken (Chatterjee, 1976):

1. Radha or Western Bengali dialects (Manbhum, Singhbhum, Birbhum, Bankura, Western Bardwan, Eastern Chotanagpur)
2. South –Western dialect (Central Midnapur)
3. Gauda proper dialect (Eastern Burdwan, Murshidabad, Nadiya, Hooghly, Howrah, Eastern Midnapur, 24-Parganas, Calcutta). These may also be called Eastern Radha or Bhagirathi valley dialects.
4. Varendra dialects (Central Bengal–Rajbangsi, Maldah, Dinajpur, Koch Behar)
5. Vanga or Bangal dialects (Dacca, Faridpur, West Maimansing and Pabna)
6. Samatata or delta dialects (Khulna, Barishal, Sundarbans, Sandip).
7. Kamarupa or North and North-Eastern dialects
 - a) Western (North Bengal dialects)
 - b) Rajbangsi (Purniya and part of Goalpara)
 - c) Eastern – The Assamese speech
8. Extreme eastern dialects (Comillah, Sylhet, Cachar, Bishnupuriya (mixed with TB), distinct from Bengali and Assamese.
9. South-Western Bengali – (Noakhali, Chittagong, Arakan except for eastern Kamarupa or the Assamese speech), all the Bengali-Assamese dialects accepted standard literary Bengali.

According to Sukumar Sen (1975) there are at least five well marked dialect groups of Bengali, of which three – the North, North-East and East Bengali dialects are spoken in Bangladesh. The other

two, the West Bengali and South-West Bengali groups, are spoken in West Bengal. Both the West and South West Bengali have clear cut sub-dialects. Dialectal distribution according to him is as follows:

- a) East-Central (Presidency division)
- b) West-Central (Southern 24 Parganas, Hooghly, Burdwan and East Bankura districts)
- c) North-Central (Murshidabad, Nadia, and South Maldah districts)
- d) East-South-Western (Midnapur district)
- e) West-South-Western (West Bankura and old Manbhum districts)

Besides these horizontal dialects, S.K. Chatterjee further mentioned about the vertical dimension of the Bengali speech, like "class dialects" spoken by members of the same class or caste scattered over a large area. He noted Kaivartas or Bauris, Bhumalis or Rajbangsis are examples of such classes because they have their cultural peculiarities reflected in their speech.

Sen has also pointed out how the speeches of the people have been affected due to internal movement of population within the country. There has been mutual influence in the case of dialects which were contiguous. He observed that the speech of the upper classes in the western part of the delta and the Eastern Radha gave the literary language to Bengal which is the educated colloquial of the tract, especially in the cities of Nadia and Calcutta. This has become the standard dialect of Bengali. To him, the Bengali dialects cannot be regarded to have emerged from a single primitive Bengali speech. Instead they are derived from various local forms of late Magadhan Apabramsa, and developed some common characteristics that may be called Pan-Bengali. These Pan-Bengali features link the dialects together as members of a single language group, and enabled them to be attached to a composite literary language. Although, the literary language has all the Pan-Bengali characteristics, its basis is typical West-Central Radhi.

Regarding standardization of Bengali Sen writes (1975) that literary Bengali of the middle Bengali period (1300-1750 A.D) did not differ much from the spoken tongue and the basis of this standard literary Bengali was the West-Central dialect. It however, freely accepted the forms and idioms from other dialects as well as from Persian. By the 15th century, the literary language had fully emerged but in the subsequent centuries the gulf between the literary and colloquial forms of the language continued to widen and by the middle of the 18th century the literary language, as adopted in the early prose

writings of the scholars, who were Sanskrit Pandits or Persian scholars and who displayed their preferences for highly Sanskritised vocabularies or borrowings from Persian, was termed as Sadhu Bhasa (chaste language). From the beginning of the 19th century, however, with efforts of the influential thinkers as well as outstanding writers like Raja Ram Mohan Roy, Iswarchandra Vidyasagar and Bankim Chandra Chatterjee, the Sadhu Bhasa style was softened and brought down to be used in literature as well as in everyday use. The Standard Colloquial Bengali which is a modified and cultivated form of the West-Central dialect (to which the city of Calcutta belongs) and is also known as Calcutta Colloquial, appears to have made its entry into literary prose in 1863 in Kali Prasanna Singha's "Huttom Pechar Naksa". Pramatha Chowdhury (1868-1946) the novelist and essayist was its great promoter, particularly through his journal "Sabuj Patra".

Rabindranath, the greatest and most influential literate of the time also took interest in this since then. Calcutta colloquial and literary standard Bengali have been growing very fast as powerful rivals of Sadhu Bhasa and is known as Chalit Bhasa (Current language). It has outdistanced Sadhu Bhasa in popularity in both West and East Bengal. Although there was a trend towards a distinctive development of standard written and colloquial Bengali in East Bengal centering around the Dacca dialect, was reported by Munier Chowdhury as early as in 1961. Nothing viable came up. Instead, Calcutta Bengali is now largely used in fiction in Dacca. It is the strongest medium on the stage, in Radio and TV, as well as in the movies.

Therefore, it is observable that the process of standardization of Bengali had passed through two broad stages of development. During the Muslim period, when Persian was the language of administration, its impact was felt in certain spheres of Bengali linguistic activities. Even today, legal documents in Bengali are written in Persianised style. In the 19th century, when literary use of prose emerged in Bengali, the entire problem of standardization centered around the issue of Sanskritized style i.e. Sadhu Bhasa vs. Chalit Bhasa. The Chalit Bhasa based on the speech of the educated middle class speakers of Calcutta, gradually spread as the modern standard Bengali and restricted the use of Sadhu Bhasa by reducing the difference between the literary and colloquial standards. The present day use of Sadhu Bhasa is restricted to certain specific uses only. In the later phase of standardization of Bengali, the influence of English was substantial (Bhattacharya, 1990).

Regarding Calcutta dialect at least four significant contributors have come to our notice; Krishna Chaudhuri (1970), D.N. Basu (1972), D. Dasgupta (1983) and Pabitra Sarkar (1989). Considering the attainment of Calcutta city as a metropolis and the linguistic profile of Calcutta, all of them are of the opinion that there is no single homogenous dialect which can be called 'Calcutta Bengali'. Although it has grown on the soil where the West Central sub-dialect is spoken, it has developed certain features which are distinctive. Chaudhuri identified at least three varieties of speech in Calcutta Bengali: a) speech of the original settlers belonging to weavers, artisans, merchant and trading communities, besides Brahmins and Kayasthas, b) speech of the commuters and regular visitors from its neighborhood, and c) SCB or Chalit Bhasa, the speech of the educated people of Calcutta, the language of the pen and the tongue understood generally by all.

Sarkar also identified three main layers of speech in Calcutta Bengali but emphasized that Calcutta colloquial is not the language of Calcutta alone. Being the standard language for the entire Bengal it has rejected the typical Calcutta cockney, a non-standard speech but accepted many features from other dialects including the dialects of East Bengal. He considered, it was inevitable to make the Calcutta colloquial as the standard medium of literature.

However, all of them agreed to the fact that a systematic study is necessary in precisely determining the nature and characteristics of Calcutta dialect in all its variants and aspects including the impact of other languages on it.

It is apparent from the foregoing description that classifications of dialects made by Grierson, Chatterjee and Sen are basically geographical covering wider areas, often overlapping with each other. Their approach is broadly speaking atomistic. As a result, we do not get a precise description of those dialects and their demarcating lines. Although their observation is very valuable to guide the researchers to achieve their goal to decide precisely the regional, social and tribal dialects, as envisaged by them.

It is worthwhile to mention here that a tradition was built with the establishment of Bangiya Sahitya Parishad in 1895 for recording the dialectal information in Bengal under the inspiring call of Rabindranath Tagore and his contemporaries. As a result, several works on dialects came to light. The zeal and urge to take up this gigantic task by other band of scholars of the day was also reinforced.

It is quite heartening to note that scholars like Md. Sahidulla under the auspices of Bangla Academy, Dacca could produce a

valuable two-volume dictionary of East Bengali dialects. Another good venture by Kamini Kumar Roy's "Laukik Sabdakosh" is worth emulating. Besides, several other lexicons on different dialects also appeared which one can not afford to ignore for dialect study.

Following the same tradition, 'Gabesana Parishad' of the Department of Bengali Language and literature of the Calcutta University, took up a huge project of compiling dialect dictionaries of all the Bengali dialects in West Bengal. They produced volume-1 in the year 1991 which is there for everybody to talk about. Five more volumes are expected by the Gabesana Parishad as per their programme.

Besides these institutionalized efforts, scores of individual scholars have been consciously involved in their work and almost every district of West Bengal in some form or the other has been taken up for dialect studies by them; In certain cases, because of their keen interest or being attracted by the distinctive features of the dialects they had studied even the dialects of sub-divisional level also. As a result, we get descriptive studies, dictionaries and general treatises which deal with Bengali dialects of a particular district, or of the sub-divisional level (the Select Bibliography has details).

There are also studies on the vertical verification of the language. The language of women has been studied, language used in trade/profession has also been studied. All forms of slangs or the special varieties of languages used by students, artisans, thieves are also studied. B.P. Mallik's study on language of the underworld deserves special mention. The study of dialect as used in religion and dialects of the immigrants are also covered. Even social stratification of Bengali language has been attempted (the select Bibliography has more details).

There are good studies on ethnic or tribal dialects. Dasgupta (1978) has produced a volume comprising of the dialects spoken by the tribes living in Purulia, Sinbhum, Chhotanagpur and Midnapur, speaking different Indo-Aryan dialects viz. Kharia Thar, Pahariya, Malpahariya, Lodha and Ghatoali, which according to him are quite distinct from the local Bengali.

Although there are now many works on different aspects of Bengali dialects, there is no readily available outline of dialectology, the study of dialects, its history, methods and concepts. Moreover, a ready reference of all these works is seriously missing. A concerted effort should be made to enlist and evaluate them, so that their

contribution to the study of language formation and changes can be properly understood.

A modest beginning has been made by the Office of the Registrar General, India, Language Division, Calcutta under a Project Linguistic Survey of India. Along with the languages, the dialects of the major languages of a State are also being surveyed. Already the survey of dialects of the Oriya language has been completed and the survey of Bengali dialects has been taken up. Presently, a pilot survey is in progress in the areas comprising the districts of Midnapur, Bankura and Purulia.

The boundaries between two adjacent speech areas is fluid but, still it is possible that each area can be defined by certain features which the others do not possess. Since people using these varieties of a language do not understand them, by using both the criteria the linguistics and the response of the people, we are trying to find out the actual line of demarcation in the pilot survey.

Linguists have long contended that all languages are really dialects; but not all dialects are languages. Furthermore, maintenance and shift of language/dialect which is taking place in the present day world have to be understood in the contexts of various cultural and political regroupings or changes which have resulted due to revolution in communication, the accelerating mobility of people and their daily exposure to increasingly uniform (because of use of standard languages) mass-media. Let us therefore, take a look at this contemporary context of language and try to reassess how it modifies our notion of dialects.

Vast areas of the country are covered by a language continuum of speech where one dialect merges with the next and where one language blends into a neighbouring one. This becomes evident when speakers of the dialect are relocated in a distant urban centre. This pattern has been noticed in phases of integration, disintegration and reintegration from many small centres to fewer centres. This limits the number of source languages and operating languages.

The combined impact of the mobility and uniformization of mass-media has lessened the contact between neighbours while increasing the impact of dominant cultures whose massive loud speakers silence the small voices of local speeches and their cultures. To sum up, the far erodes the near and eventually drives it out. (Mackey, 1992).

BIBLIOGRAPHY

- Adhikary, Nisithnanda. 1973. *Kajer Bhasa: Mukher Bhasa*, Bhasa, 1.1.
- Anisuzzaman. 1960. *Banglabhasa O Banglar*, Musalman, Samtat, Calcutta.
- Awal Md. Abdul. 1954. "Meyeder Bhasa", in *Sylhet Sarkary Kalej Barshiki*.
- Bandyopadhyay, Abinash. 1943. *Dakkhin Banger Kathyabhasa*, Sahitya Parisad Patrika.
- Bandyopadhyay, A.K. no date. *Nadiya Jelar Upabhasa*.
- Bandyopadhyay, (Asit Ed.). 1991. *Ancalik Bangla Bhasar*, Abhidhan Vol.1: Calcutta University.
- Basu, D.N. 1972. *Language and Dialects of Calcutta during the last one Hundred years, A Cultural Profile of Calcutta*, (ed.) Surajit Sinha. Calcutta: Indian Anthropological Society.
- Basu, Sharmila. 1997. *Narir Bhasa*, Calcutta: Prama.
- Bhattacharya, R. 1980. "Coding of words in Ragbangsi Dialect of North Bengal". Paper presented in 10th DLA conference, Delhi.
- Bhattacharya, S.S. 1990. "Standardisation of Languages" The case of India. *Proceedings of the Indo-Canadian Round Tables on the Written Languages of India*, Quebec, Canada: ICRB publication No. 174, Laval University.
- Bhowmik Nirmalendu. 1985. *Pranta Uttarbanger Upabhasa*, Calcutta: Calcutta University.
- Bhowmik, Suhrid. 1981. "Direct Dravid words in Bengali Dialect" Paper presented in the 11th DLA Conference, Osmania University, Hyderabad.
- Bright, William. 1976. *Variation and Change in Language Selected and Introduced by Anwar S. Dill*. California: Stanford University, Stanford.
- Chakraborty, C. no date. *Nadiyar Upabhasa*.
- Chakraborty, M.M. 1982. "The Dialect of Birbhum" Paper given at the 3rd ICSALL, CIIL, Mysore.
- Chakraborty, N. 1924. "Khulna Jelar Majhir Bhasa" In *Sahitya Parishad Patrika*.
- Chakraborty, Prithvindra. 1955-56. "Dialect of Ranakamars of Birbhum", IL, 15:52-62.
- Chakraborty, P.N. 1983. *Birbhum Dialect, Kumillar Upabhasa*.
- Chatterjee, B. no date. *Linguistic study of Hoogly Sadar Sub-divisional Bengali*, Unpublished Ph.D Dissertation, University of Calcutta. Calcutta.

Chatterjee, Suhas. no date. *A study of the Relationship between written and colloquial Bengali*. Ph.D Dissertation. Hartford Seminary Foundation, the U.S.A.

Chatterjee, S.K. 1926. *Origin and development of Bengali language*, Calcutta: University of Calcutta.

Chatterjee, S.K. 1976. Address, given at the Purba Bharat Sanskritik Sammelan, Bhubaneswar, Orissa Govt. of West Bengal.

Chattopadhyay, Champa Rani. no date. *Bishnupurer Upabhasa*.

Chattopadhyay, S.P. no date. *Murshidabad Jelar Upabhasa*.

Chaudhuri, Krishna. 1970. "Emergence of Standard Colloquial Bengali", In Census of India 1961 DCH, Pt, II 24 Paraganas, West Bengal, Government of India.

Chowdhury, S. no date. *Rangpurer Upabhasa*.

Chowdhury, Swadesh Dhar. no date. The dialect of the Refugees settled at Ranghat, 24 Pgs, West Bengal.

Das, Niramal. 1970. *Uttarbanger Narir Bhasa*, Biswabharati Patrika.

Das, Niramal. 1984. *Uttarbanger Bhasa Prasange*.

Das, S.N. no date. *Birbhumer Bhasa o Sabdakosh*.

Das, Sandhya. no date. *Bankura – Gram o Saharer*

Das, Sikha. no date. *Nadiyar Bhasa*.

Datta, S.P. no date. *Dialectal study of the Sub-Division Uluberia*. Unpublished Ph.D. Dissertation, University of Calcutta, Calcutta.

Dasgupta, Dipankar. 1983. "Kolkatar Bhasar Chalchitra", *Rabindra Bharati Patrika*, Calcutta: Rabindra Bharati University.

Dasgupta, Dipankar. 1978. *Linguistic Studies in Juang, Kharia Thar, Lodha, Malpahariya, Ghatoali and Pahariya*, Calcutta: Anthropological Survey of India.

Ferguson, C.A. and John J. Gumperz. 1960. *Linguistic Diversity in South Asia*, Publication No.13, Bloomington: Indiana University Press.

Ghose, Abhijit. 1976-81. "Dialectal Lexemes from Sundarban areas of West Bengal" *IJL*.

Ghosal, S.N. 1952. "Some vocabules Birbhum colloquial", *IL*, 12: 3-4

Goswami U.N. 1970-72. "The language of North Bengal and Western Assam", *Journal of the University of Gauhati*, 21.3.

Grierson, G.A. 1903. *Linguistic Survey of India* Vol. V, Part 1, Delhi: Motilal Banarasidas, reprint 1967.

Grierson, G.A. 1927. *Linguistic Survey of India* Vol.1. Part 1, Delhi: Motilal Banarasidas, reprint.

Hai Md. Abdul. 1954. "Purba Banglar Bangla Bhasar Bhabishyatrup", *Dianik Azad*.

Hai Md. Abdul. 1954. "Samajik Badha Nishedh o Subhasan", *Elan*.



Bhattacharya

ijdl Vol. XXX No. 2

Hai Md. Abdul. 1957. "Toshamoder Bhasa", Sam.

Hai Md. Abdul. 1959. "Islamic aspects of Bengali language, Encyclopedia of Islam.

Halder, Balai. no date. *Diamond Harbarer Upabhasa*.

Halder, Gopal. 1982. *A comparative Grammar of East Bengali Dialects*.

Hazra, Chandan. 1980. Khotta Bhasa of Maldah – Its speakers and its Nature. Paper presented at the 10th DLA conference, Delhi.

Islam Rafiqul. 1962. *Introduction to Eastern Bengali Dialects*, Minisota, USA.

Kabir, Humayun. no date. *Study of Sandwip Dialect*, Ph.D. Dissertation, University of Pune.

Karan Sudhir Kumar. 1955-56. "South-Western Bengali", *IL*, 15: 3-4

Karan Sudhir Kumar. 1963. "Some aspects of Simanta Radhi Dialect", *BPSC*, 4.1.

Karan Sudhir Kumar. 1967. "Contai dialect of South-Western Bengali", *BPSC*, 2: 15-25.

Kundu, P.K. 1982. "Rajbangsi speech of North Bengal". Paper given at the 3rd *ICSALL*, *CILL*, Mysore.

Lahiri, A. *Linguistic study of Kandi Subdivision of Murshidabad*, Unpublished Ph.D dissertation, University of Calcutta, Calcutta.

Mackey, W.F. 1984. Mother tongue education: Problems and prospects. *Prospects*, Vol.XIV, No.1.

Mackey, W.F. 1992. Mother tongues, other tongues and link languages –what they mean in a changing world. *Prospects*, Vol.XXII, No. 1 (81).

Mahato, K. 1972. Kurmali Sarbana. *Chatrak*, 2.4.

Mahato, K. 1972. Kurmali Bisheshya. *Chatrak*, 3.1.

Mukhopadhyay, A. 1974. *Kamrupi Upabhasa: o Dhvani: Rupavichare*.

Mallick, B.P. 1971. *Aparadhjagater Sabdakosh*. Calcutta: Naba-bharat.

Maniruzzaman, Md. *Linguistic study on Chakma*.

Maniruzzaman, Md. no date. *Kumillar Upabhasa*.

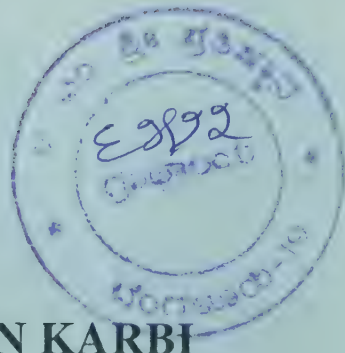
Mondal Ramal. 1966. "Some peculiar words from Diamond Harbour Region". *BPSC*.

Morshed, A.M. 1985. *A study of standard Bengali and the Noakhali Dialect*.

Naskar, S.K. 1997. "Dakkhin Chabbis Parganar Kathya Bhasa: Sabda dhvani Rupatattvik Nirikkha", In *Lokasruti*, No. 13 Loksanskriti o Adibasi Sanskriti Kendra, Government of West Bengal.

Paul, Animesh Kanti. 1966. "Dialects of Bengali spoken in Midnapur", In *Census of India 1961*, West Bengal DCH, Midnapur, Vol.1 App-4.

- Petyt, K.M. 1980. *The study of Dialect – An Introduction to Dialectology*, London: Andre Deutsch.,
- Ray, Kamini Kumar. no date. *Laukik Sabdakosh*.
- Roy Punyaslok, Md. Abdul Hai and Lila Roy 1966. *Bengali language Hand-Book*. Massachusettes Avenue, N.W. Washington D.C.: Centre for Applied Linguistics.
- Roychaudharay, S. no date. *Paschim Dinajpurur Bhasa*.
- Saha, D.N. 1990. *Jharkhandi Bangla Upabhasa*, Rannchi: Ranchi University.
- Sahidullah Md. (Ed.). 1965. *Purba Pakistani Anchalik Bhasar Abhidhar*, Dacca: Bangla Akademy. (In two parts).
- Sarkar, Pabitra. 1983. "Gopon Bhasar Goponkatha", *Jugantar Puja Annual*, Calcutta.
- Sarkar, Pabitra. 1983. "Bangla Bhasar Samajtattvik star", *Rabindra Bharati Patrika*.
- Sarkar, Pabitra. 1989. "*Kolkatar Bhasa*". Calcutta: Desh Vinodan Sankhya.
- Sarkar, Tarak. no date. Kerala Bengali, Ph.D. Dissertation, Jadavpur University.
- Sanyal, Charuchandra. 1965. "The Rajbangsis of North Bengal", *The Asiatic Society, Calcutta IX-XIII*, pp. 174-272.
- Sen, Kanaklata. 1983. *The Bengali Dialect spoken in Murshidabad*. Unpublished Ph.D Dissertation, University of Calcutta, Calcutta.
- Sen, Nilmadhab. 1972. *Some Dialects of Bangladesh. An outline*.
- Sen, Sukumar. 1926. "Women's dialect of Bengali". *Journal of the Department of Letters*, University of Calcutta, Calcutta. 28: 83.
- Sen, Sukumar. 1955. "The caste dialect of the Muchis in South-Western Burdwan", *IL*, 16:16-20.
- Sen, Sukumar. 1960. *Bhasar Itibritta*, Calcutta: Eastern publishers.
- Sen, Sukumar. 1975. "Grammatical sketches of Bengali", In *Grammatical sketches of Indian Languages with comparative Vocabulary and texts*. (Compiled) R.C. Nigam. *Census of India 1971*, Monograph No.2, Delhi: Government of India.,
- Sinha, R. no date. *Manbhumer Upabhasa*.
- Suleman, Md. 1971. *Dinajpurur Anchalik Bhasar Ruperkha*.
- Ucida, Norhiko. 1970. *Der Bengali Dialect Von Chittagong*.
- Vijayanunni, M. 1997. *Census of India 1991. Series-1- India paper 1 of 1997-languages India and States (Table C-7)* Government of India, New Delhi.



STRUCTURE OF VERBS IN KARBI

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1.0 Introduction

The Karbis are considered as an important hill tribe of Assam. They have still maintained to a great extent their own customs, traditions and language. The Karbi language, an offshoot of the Tibeto-Burman family of languages is widely spoken in the Karbi Angleng district and its neighbouring areas in Nagaland, Meghalaya, and Nowgong, Golaghat and Kamrup districts of Assam. Most of them are bilingual and converse in Assamese, besides their own tongue. The Karbi language does not possess tonal characteristics like Boro, a major Tibeto-Burman language. This language has been influenced by Assamese because of its contact over centuries.

The Karbi grammar shows some peculiarities which are not common to its other sisters of the Tibeto-Burman languages. Here, an attempt has been made to give a picture of the verb system in Karbi mainly its structural aspect.

2.0 Structural Classification of Karbi Verbs

2.1 The verb system of the Karbi language is simple. A verb indicates the time of action by means of pre-position and post-position occurring with the verb. There are no irregular verbs in Karbi. In Karbi the same verb form is used in all tenses for all persons both in singular and plural.

2.2 Structurally a verb in Karbi appears as root + tense + marker + suffix excepting the present indicative verb, where the verb root itself indicates its tense. Verbs are those roots which take inflection for tense, aspect and mood. In Karbi the same verb form is used with different preposition or post-positions to mark different tenses. Karbi verbs have no grammatical person nor do they have number.

3.0 Verb roots in Karbi may be broadly classified into two types: Simple and Derived roots.

3.1 The Simple Roots: The simple roots are both monosyllabic and dissyllabic.

Many of the disyllabic roots begin with *in-/ā r-* which occur with noun roots also.

e.g. (i) Monosyllabic	<i>ai</i>	'be sad'
	<i>an</i>	'try'
	<i>i</i>	'put on'
	<i>u</i>	'make smoke'
	<i>e</i>	'plant'
(ii) Disyllabic(a)	<i>āri</i>	'wish'
	<i>āru</i>	'lope'
	<i>ārdour</i>	'pray'
	<i>ārlu</i>	'climb'
(b)	<i>in̄krān</i>	'get appetite'
	<i>in̄kruñ</i>	'sieve'
	<i>in̄cir</i>	'feel hungry'
	<i>in̄jār</i>	'fly'
	<i>in̄nek</i>	'smile'

3.2 The Derived Roots: The derived roots are formed by compounding or derivation. All the causative verbs in Karbi are derived. The causative verb roots are formed by prefixing */pā/pi-/* to the verb root subject to the morphonemic conditions stated as under.

(i) The causative prefix is *pā-* which has two allomorphs */pe-/*, *pi-/* and *pā* is added to the verb root with an initial vowel phoneme */i, a/*. As soon as the *pā-* prefix is added to the verb root the initial-*i/a* vowel is lost.

e.g. *in̄kāi* 'to fence'; *pā-in̄kāi* > *pāñkāi* 'cause someone to fence'
ārkāk 'sweep'; *pā-ārkāk* > *pārkāk* 'cause someone to sweep'

Similarly,

<i>arklak</i> 'to be boiled'	; <i>pārkklak</i> 'cause to be boiled'
<i>ārkli</i> 'worship'	; <i>pārkli</i> 'cause someone to worship'
<i>ārnāk</i> 'embrace'	; <i>parbāk</i> 'cause someone to embrace'
<i>in̄chām</i> 'make cool'	; <i>pāñchām</i> 'cause someone to make cool'
<i>in̄chip</i> 'suck'	; <i>pāñchip</i> 'cause someone to suck'

ínchek 'tear'; *pā́nchek* 'cause someone to tear'

(ii) When the prefix *pā-* is added to the verb-root with the initial consonant phoneme the verb root remains as it is:

e.g. *klem* 'do' ; *pā́klem* 'cause someone to do'
bəri 'strive' ; *pā́bəri* 'make one to strive'
wā́h 'come' ; *pā́wā́h* 'cause someone to come'

pe-

cə 'eat' ; *pecə* 'make someone to eat/food'
tań 'end' ; *petāń* 'make someone to end/finish'
lum 'sing' ; *pelum* 'make someone to sing'
hir 'got down' ; *pehir* 'make someone to get down'

pi-

thi 'die' ; *pithi* 'make someone to die/kill'
wirdot 'lose' ; *piwirdot* 'make someone to lose/destroy'

(iii) Once a causative verb-root is formed it is inflected like any other simple verb-root/stem. It again shows two types.

For example: -

(i) causative prefix + verb root + post position.

e.g. *lā chiru pilem lə* 'he pretended to weep'

(ii) prefix + verb-root + suffix

e.g. *ālāń əhə thi-i aphan pā cirubom lə* 'she is sleeping the child'

la wə pithi lə 'he kills the birds'

ālāń əchə ān pecə thā 'she feeds (make eat) the child'

4.0 Inflection of simple verb-roots

A Karbi verb is formed by the verb-root + tense marker which is a post position but in the present indicative mood no tense marker is added; only the verb root itself indicates the tense of it.

4.1 Zero Modification

verb-root + nothing

e.g.	<i>ne ān cə</i>	'I eat food'
	<i>nan ək cə</i>	'You eat fish'
	<i>ne tań jun</i>	'I drink water'
	<i>cināń bāp cə</i>	'The cow eats grass'

4.2 Tense Marked by Post Position

verb root + post position

e.g.	<i>ne</i>	<i>ān</i>	<i>cə</i>	<i>lə</i>	'I ate rice'
	<i>ālāñli</i>	<i>cə</i>	<i>lə</i>		'He ate'
	<i>ne</i>	<i>penāp</i>	<i>wāñ</i>	<i>pə</i>	'I will come tomorrow'

4.3 Tense Marked by Preposition

The causative verbs described earlier represent this category.

prefix + verb-root

e.g.	<i>lā</i>	<i>wə</i>	<i>pithi</i>	'He kills the bird'
	<i>ne</i>	<i>ch</i>	<i>an pecə tha</i>	'I feed the child'
	<i>ne</i>	<i>lə</i>	<i>the pemon</i>	'I ripen the banana'

The Karbi language does not show compound verbs. The author has not come across any such compound verb.

5.0 Functional classification of Karbi verbs

5.1 Functionally Karbi verbs can be divided into two categories:

(i) Transitive. i.e., with an object and (ii) Intransitive. i.e., without an object.

This distinction is primary in Karbi.

e.g.	Intransitive verb:	<i>āñjap</i>	'stand'
		<i>iñni</i>	'sit'
		<i>iñnek</i>	'smile'
		<i>ciru</i>	'cry'
		<i>thi</i>	'die'
	Transitive verb:	<i>āp</i>	'shoot'
		<i>iñjan</i>	'fly'
		<i>cə</i>	'eat'
		<i>jun</i>	'drink'
		<i>tāñ</i>	'finish'
		<i>nep</i>	'catch'

5.2 Derivation of Transitive verbs

Some transitive verbs are formed by adding prefix *pā-pi-*, *pe-* before the intransitive verb root.

e.g.	Intransitive	Transitive
	<i>ārklək</i>	<i>pārklək</i>
	'be boiled'	'boil'
	<i>ciru</i>	<i>pāciru</i>
	'cry'	'weep'
	<i>thi</i>	<i>pithi</i>
	'die'	'kill'
	<i>mechə</i>	<i>pemochə</i>
	'shine'	'burn'

6.0 Syntactic Classification of Karbi verbs

Syntactically verbs in Karbi can be divided into two classes, viz. Finite and Non-finite. A finite verb completes a sentence formally and semantically, while a non-finite verb does not. A non-finite verb always requires a finite verb to complete the sentence.

A finite verb takes the morphemes for tense, imperative negative, interrogative.

6.1 Tense in Karbi

Verbs in Karbi are inflected for tenses. There are three principal tenses in Karbi verbs- present, past and future which are further subdivided into a few aspects as follows.

Present: Indicative, present continuous, present perfect.

Past : Immediate past, Past conditional.

Future : Future simple, Future conditional.

The Karbi verb forms in various tenses and aspects are noted below in the table No.1.

Table-1

Tense and aspect	1 st person	2 nd person	3 rd person
Present indicative	Zero element ik (hon.)	Zero element ik (hon.)	Zero element ik (hon.)
Present continuous	ko-lə bəm lə bəm tān	ke lə bəm lə bəm tān	ke lə bəm lə bəm tān
Present perfect	ik et lə tān lə	ik et lə tān	ik et lə tān lə
Simple past	lə	lə	lə

Past conditional	āpat lə zi āpat lə	āpat lə zi āpat lə	āpat lə zi āpat lə
Simple future	zi	zi	zi
Future conditional	zi (late) pə (soon)	zi (late) pə (soon)	zi (late) pə (soon)

6.1.1 Present simple or Indefinite

The present indicative verb in Karbi has zero element as tense marker.

e.g. <i>ne</i>	<i>ān</i>	<i>cə</i>	'I eat rice'
<i>ājāñ</i>	<i>ān</i>	<i>cə</i>	'He eats rice'
<i>nāñ</i>	<i>ək</i>	<i>cə</i>	'You eat fish'
<i>hādāk</i>	<i>methān</i>	<i>də</i>	'There is a dog'

Note:- Sometimes 'ik' is added after the verb with a pronoun in nominative ended with -li suffix.

e.g. <i>neil lāñ zun ik</i>	'I drink water'
<i>nanli lan zun ik</i>	'You drink water'
<i>alanli chazun ik</i>	'He drinks tea'

Present continuous-

<i>ne ān ke</i>	<i>cə lə</i>	'I am eating food'
<i>ne ān cə bam lāñ</i>		'We are eating food'
<i>ne wāñ bam lāñ</i>		'I am still coming'
<i>ram dām hɛm bam lə</i>		'Ram is going home'
<i>chāhāb ātum dām ik bam lə</i>		'The gentleman is going'
<i>mantri chā ke zun ik lə</i>		'The minister is drinking tea'

Present perfect-

<i>nè ān cə et lə</i>	'I have eaten food'
<i>nelitum ān cə ik et lə</i>	'We have eaten food'
<i>nānli wañ ik lāñ lə</i>	'You have come'
<i>lātum wān et lə</i>	'They have come'

6.1.2. Past tense: Past simple

<i>ne ān cə lə</i>	'I ate rice'
<i>nelitum ān cə lə</i>	'We ate rice'
<i>alan hɛm et lə</i>	'We went home'
<i>Ram ladak wān lə</i>	'Ram came here'

Note: - Sometimes the suffix "lə" is not used to a verb in the indefinite past to indicate the time.

e.g. <i>ātumi ālāñ lādāk wāñ</i>	'He came here yesterday'
----------------------------------	--------------------------

ānut ichi hālādāk recænut də 'Once upon a time there was a king'

Past conditional: The past conditional tenses are formed by adding 'āchante' and 'āpat lə' "to the verb-root. Generally suffix *pə*, *zi* are used with the verb before 'āpat lə'.

- e.g. note *dəhən də āchante, bus pen damzi āpat lə.*
 'if I had money, I would have gone by bus'.
ārwe zān āchante, chak mechenziāpat lə.
 'if it had rained, the paddy would have been good'.
nān dām āchante, nān lā lən lək āpat lə.
 'if you had gone, you would have got it'.
ne wān āchante, nāntum chunchezi āpat lə.
 'if I had come, you would not have suffered'.

6.1.3 Future tense

The future tense is formed by putting 'zi' and 'p' to a verb root. The suffix-'pə' indicates that the action will begin now and will continue for sometime in the future while suffix-'zi' indicates that the action will be commenced later on;

- e.g. *ne hem damzi* 'I shall go home'
alānlitum lādāk wānzi 'they will come here'
Ram nan wān pə 'Ram will come now'
pini ne bāzārdmpə 'I shall go to the market to day'
nelitum penāp ān cəpə 'we will eat food tomorrow'

When the subject is in the first person inclusive pronoun by adding *lənān* for near future and *nan* for distant future.

- e.g. *etum kām kelm lənān* 'we will do work'
elitum ān cənān 'we will eat meal'

6.2 Imperative

The imperative is another important feature in Karbi verb. The imperative mood -thā,-nənəi are suffixed to the verb-root to indicate the imperative sense. Suffix -nən,- thā, -nəi express the fact that the order is given to several person.

- e.g. *nānli hādāk dāmthā* 'you go there'
nānli lādāk wānthā 'you come here'
bāzi theinəi 'ring the bell'
nānli wān pe prap nəi 'you come quickly'
ālānlipāwān thā 'allow him to come'

Note: The imperative follows the honorific marker 'ik'. The other verbal suffixes thā/nən/nəi etc.

Follow this 'ik' in such situations.

- e.g. *nānli chā zun ik nən* 'You take your tea'

nānli lun lun ik thā 'You sing a song'

In the imperative 3rd person singular and plural, the suffix *pā* and *pe-* are inserted before the verb-root. '*pe*' is used in positive sense while '*pā*' and '*pe*' are used in the sense of prohibition. It follows the prohibitive '*ri*',

<i>ālānlipedam nən</i>	'let him go'
<i>alanlipāpe dām ri nən</i>	'let him not go'
<i>halatum pedam nən</i>	'let them go'
<i>hālātum pāpe dām ri nən</i>	'let them not go'
<i>halatum pāpe dām nənne</i>	'they need not go'

6.3. Negation

The negation is another interesting feature in the Karbi language. The various methods of negative formation in Karbi are illustrated below.

6.3.1 Negation

In Karbi the verbs *də* 'have' and *kālān* 'is' indicate positive sense, *āwe* 'have not' and *kāli* 'is not' indicate negative sense. The negative forms are used to mean the negation. To indicate negative sense these '*āwe*' and '*kāli*' replace the verb '*də*' and '*kālān*' respectively. This is very simple method of negative formation.

e.g. <i>hādāk ək də</i>	'there is fish'
<i>hādāk ək āwe</i>	'there is no fish'
<i>ne rede paicā də</i>	'I have money in my hand'
<i>ne reddən paica āwe</i>	'I have no money in my hand'
<i>lāke cāinan (kālān)</i>	'this is a cow'
<i>lāke cāinan (kālin)</i>	'this is not a cow'
<i>lā ne nudeñ (kālān)</i>	'This is my umbrella'
<i>lā ne nudeñ kāli</i>	'This is not my umbrella'

Sometimes the word *nānnel* 'no need' is used after the pronoun to indicate the sense of negation.

e.g. <i>nephān nān</i>	'I want'
<i>nephān nānne</i>	'I do not want'

6.3.2 Negation by the morphological process of reduplication

(i) Negative verb is also formed by repeating the initial single or double consonant of the verb at the end of it, after the *-e* suffix is used

in such negative verb in Karbi. This is a peculiar negative verb in Karbi.

e.g.	<i>kur</i>	'to make fire'	<i>kur-k-e > kurke</i>	'do not make fire'
	<i>cə</i>	'to eat'	<i>cə-c-e > cəce</i>	'do not eat'
	<i>zun</i>	'to drink'	<i>zun-z-e > zunze</i>	'do not drink'
	<i>dām</i>	'to go'	<i>dām-d-e > dāmde</i>	'do not go'
	<i>wān</i>	'to come'	<i>wā-w-e > wānwe</i>	'do not come'
	<i>ne dām</i>			'I go'
	<i>ne dāmde</i>			'I do not go'
	<i>ne dāmde det</i>			'I did not go'
	<i>ne tumi kelml</i>			'I worked yesterday'
	<i>ne tumi klemklelə</i>			'I did not work yesterday'
	<i>ne pini wān pə</i>			'I will come today'
	<i>ne pini wānwepə</i>			'I will not come today'
	<i>ne lān zun</i>			'I drink water'
	<i>ne lān zunze</i>			'I do not drink water'

ii) Sometimes negative verb is also formed by repeating the medial consonant of the verb at the end of it and -e suffix is added to form a negative verb in Karbi.

e.g.

<i>inchām</i>	'to make cool'	<i>inchām-ch-e > inchāmche</i>	'do not make cool'
<i>inchip</i>	'to suck'	<i>inchip-ch-e > inchipche</i>	'do not suck'
<i>intuipik</i>	'to-high up'	<i>intuipik -p-e > intuipikpe</i>	'to not go high up'
<i>inzār</i>	'to fly'	<i>inzār-z-e > inzārze</i>	'do not fly'
<i>inzir</i>	'to dissolve'	<i>inzir-z-e > inzirzo</i>	'do not dissolve'
<i>lān inchām</i>			'water is cold'
<i>lān inchāmche</i>			'water is not cold'
<i>chāini inzir</i>			'lime is melted'
<i>chāini inzirze</i>			'lime is not melted'
<i>inlān intuipik</i>			'the hill is high'
<i>inlān intuipikpe</i>			'the hill is not high'

6.3.3 Negation by the morphological process of suffixation

(i) If the verb-root begins with a vowel then negative is simply formed by suffixing -e to the verb-root.

e.g.	<i>i</i>	'to wear'	<i>i-e</i>	'do not wear'
	<i>e</i>	'to plant'	<i>e e</i>	'do not plant'
	<i>et</i>	'to accept'	<i>ete</i>	'do not accept'
	<i>en</i>	'to make'	<i>ene</i>	'do not make'

ur 'to dry on fire' *ure*

'do not dry on fire'

(ii) Another suffix *-ri* is used in Karbi to the verb-root to indicate prohibition, another type of negation.

e.g. *klem* 'to do' *klemri* 'do not do'
zun 'to drink' *zunri* 'do not drink'
lan 'to find out' *lanri* 'do not find out'
kām hen klemri '(you) do not do bad work'
hi thi dāmik ri '(you) do not go to market'
wān we ri '(you) should not come always'
wānirithā '(you) should not bring'

6.3.4 Another important feature of negative formation in Karbi is a double negative. The verbal root is reduplicated and the negative marker added to the verb is also reduplicated. This way the negative marker added to the initial consonant and then it is reduplicated. This type of negation is not used very frequently.

e.g. *wān* 'to bring' *wān+wān+we+we* = *wānwānwewe*
 'Do not bring again and again'

6.3.5 Another peculiarity is also observed to indicate the certainty of action. In such verbs after verb -root- 'wek' which means certain is added and then only the tense marker is used.

e.g. *cə+wek+pə=cə wekpə* 'will eat certainly/surely.
cə+wek+we+pə=cə wekwepə 'will not eat certainly/surely.'

7.0 Non-finite verb

A non-finite verb does not complete the sentence and demands another predicate with a finite verb. Three major types of non-finite verbs could be visualised in Karbi.

i) The present participles are formed by prefixing *ko-kā*, *ki-* to the verb root,

e.g. *dām* 'go' ; *kedām* 'going'
chiru 'weep' ; *kechiru* 'weeping'
hān 'call' ; *kehān* 'calling'
pechə 'beat' ; *kāpechə* 'beating'
pethir 'approve' ; *kāpethir* 'approving'

ii) The past participles are formed by post positioning *-tān* to verb-root.

e.g. *dām tān* 'after having gone'

<i>kətək tāń</i>	‘after having written’
<i>keklem tāń ākām</i>	‘after having the work done’
<i>kechək tāń āpe</i>	‘after having the clothes washed’

iii) There is another type of participle formed by suffixing ‘*chi*’ or ‘*rā*’ to the verb-root in the indicative mood or in imperative mood.

e.g. <i>ālāń li an chəchi dāmpə</i>	‘after taking rice, he will go’
<i>lā wāńchi cə lə</i>	‘he came and ate’
<i>ālāń li āń pechəṛā pedam nāń</i>	‘Let him go after taking rice’

Both i) and ii) seem to be comparable.

iv) The completive participle indicates that the action denoted by the finite verb takes place after the action conveyed by the non-finite verb. This type of participles differs from the past participle in that the subject of both the clauses are either same or different. It takes –*āphi* or –*ānchi* as suffix.

e.g. <i>la an cədet phi ne megjańlə</i>	‘I slept after he ate’
<i>la wandet āphi ne dāmpə</i>	‘I shall go after he comes’

v) Infinitive indicates the purpose for which the action is performed by the finite verb. It is indicated by –*āphān*/+*-pu* as shown in the example noted below.

e.g. <i>ək kenepji āphān netum lāńṛəy dām</i>	‘we go to the river for catching fish.’
<i>ne lāń cinlujipu lāńṛəy dāmlə</i>	‘I went to the river to bathe’.

BIBLIOGRAPHY

- Balawan, M. 1979. *English Karbi Dictionary*
 Grierson, G.A. 1903. *Linguistic Survey of India. Vol.III, part-2.*
 Goswami, S.N. 1988. *Studies in Sino-Tibetan language.*
 Joyapaul, V.Y. 1987. *Karbi Grammar*, Mysore: CIIL.
 Kakati, B.K. 1941. *Assamase: Its formation and development.*
 Konwar, A. 1991. *Karbi people and their language : A Critical Study.* (Ph.D.Thesis, Gauhati University, Unpublished)
 Lyall, C. 1908. *The Mikirs.*
 Terang, R.B. 1964. *Karbi Bhasar Chamu Parisay.*
 Terang, R.B & Teron, L. 1967. *Karbi Lamkuru.*
 Terang, R.B. 1947. *Karbi Lamtacham.*

Terang, R.B. 1981. *Karbi Asamiya Path*.

Teron, L. 1977. *Prathamik Karbi Shiksha*.

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COGNITIVE ORGANISATION OF TAMIL SIMPLE SENTENCES BY MONOLINGUALS AND BILINGUALS

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Research in the field of bilingualism has consistently concerned itself with one central question: Does the organization of a given language in a bilingual differ systematically from the organization of that language in a monolingual? Some studies comparing bilinguals and monolinguals in monolinguals' language have found no differences in performance (e.g., Soares and Grosjean 1984). On the contrary, a study conducted by Mack (1984) to compare the semantic and syntactic processing in monolinguals and bilinguals revealed that the bilinguals did not function as monolinguals.

Apart from these contradictory results, it is also seen that often these studies involved bilingual situations where the two languages are genetically related. This has led to a certain degree of ambiguity to discriminate the distinctive patterns of the cognitive process of a language by a mono and bilingual. Therefore, an investigation was undertaken to study the cognitive processing of Tamil sentences by mono and bilinguals (Tamil-Hindi bilinguals and Hindi-Tamil bilinguals), wherein these two languages belong to different families. Present paper confines with the data obtained for simple Tamil sentences only.

METHOD

In order to generate relevant data needed for the present study two simple Tamil sentences were employed. The test sentences used are:

1. nān kuḷantaikaḷukku pommai kāttik koṇtirukkīrēn
 "I am showing doll to children".
2. kuḷantaikaḷ tāy tantayarkku mikavum tollai tarukinṛanar
 "Children give more trouble to parents".

Stimulus Card

The number of input pairs of words from each of these sentences that contain 'n' words is given by $n(n-1)/2$. Similarly, a n-word sentence gives in all $n(n-1)$ (n-2) traid. Since each traid can give rise to three pairs of words, the total number of derivable word pairs from all the traids of a given sentence with 5 and 6 words were used. Consequently, the number of traids derivable from these sentences were too many for using them in the preparation of stimulus cards. This constraint essentially arises from the fact that many subjects were unable to find reasonable time to study meaningfully so many traids and respond properly. There was also the case of loss of interest among the subjects. Hence, the number of traids used for eliciting response from the subjects was reasonably restricted. Therefore the input pairs of words from the first and second sentence are 10 and 15 respectively and also the numbers of traids used during the current investigation are 20 and 30.

There were as many stimulus cards as the number of traids i.e., 50 in total. Each stimulus card (size: 17.50 cm/ 13.50 cm) contained an equilateral triangle with the sides specified as a, b and c written in an anticlockwise direction. The sentence was given on top of the stimulus card. Just above each angle of the triangle (corner) a word of the traids is written. Additionally, model stimulus card to be used for demonstration by the investigator were also prepared. The sentence used for model stimulus cards were different from those employed in the study proper.

Response Sheet

Every monolingual/bilingual subject was asked to respond to stimulus cards in terms of word relatedness. Each response sheet contained a general section dealing with the bio-data of the subject wherein he has to indicate his name, age, class in which he is studying, name of the school, his mother tongue and languages known to read, write and speak. In addition, information on father and mother regarding their profession, educational status, their mother tongue and income were recorded. The other section pertains to the actual response of the student with regard to word pair relatedness in a traid. The subject's judgment regarding the degree of relatedness of word pair was given either by a mark indicates the most relatedness and the 'X' mark indicates the least relatedness. The side which had been left unmarked indicates an intermediate relatedness of a word pair.

Sample

The participants were all high school students of the age group of 14-16 years. There were three groups of participants, viz., Tamil monolinguals (TM), Tamil-Hindi bilinguals (THB) and Hindi-Tamil bilinguals (HTB). The bilingual children were included in the study on the premise that their level of proficiency in the language concerned was relatively high (Ben-Zeev, 1977). In total 120 students with equal proportion of boys and girls were selected to participate in the present study.

1 Group: Tamil monolinguals: These students were Tamil mother tongue speakers. Their medium of instruction was also Tamil.

11 Group: Tamil-Hindi bilinguals: The students were Tamil mother tongue speakers having the knowledge of Hindi. They were studying Hindi either as a subject or medium of instruction in the schools.

111 Group: Hindi-Tamil bilinguals: The students were Hindi mother tongue speakers having the knowledge of Tamil. They were studying Tamil either as medium of instruction or as a subject in the schools.

The subjects were drawn from various schools of Hindi and Tamil speaking areas, i.e., Delhi and Tamil Nadu.

Procedure of eliciting response:

The stimulus cards and response sheets were administered individually to each student. A good rapport was established and sustained between the investigator and the subject so that no traces of discomfort or nervousness are present in the subjects. Care was taken to create an impression that his task of responding to stimulus cards is not equivalent to a test and it is not related to his academic performance. Initially, the investigator demonstrated the procedure using the model stimulus cards and response sheets. Each subject spent about an hour daily in recording the responses. All the students were tested individually by the investigator. Those students who become tired or irritant were dropped out from the study.

Scoring

The collected response sheets were scored giving weightage to the most, least and neutral relatedness word pairs. The score '3' was given to the word pair for which the subject indicated with a ' ' mark.

The score '1' was given to the word pair for which the subject marked as 'X'. Usually the neutral pair is assigned a value which was the average of the most and the least related pair. Accordingly '2' was given as the score for neutral pair. Average relatedness score for each word pair of the sentence was calculated and was plotted on a relatedness matrix. The accrued relatedness data were subjected to appropriate statistical analysis viz. hierarchical clustering schemes (Johnson, 1967).

Results

The basic data which were obtained from the response sheets for relatedness values of word pairs and subsequent analysis for hierarchical clustering structures of sentence are enumerated below for both monolingual and bilingual subjects on Tamil simple sentences.

Monolinguals

The relatedness values for the word pairs of simple sentences obtained from Tamil monolinguals subjects of either sexes were presented in Tables. 1a-2c. The hierarchical clustering structures derived from the analysis are given in the form of dendrograms in figures 1 and 2.

1st Sentence

Monolinguals

Boys:

(((nān, koṇṭirukkirēn) kuḷantaikaḷukku, pommai) kāṭṭik).

Girls:

((kuḷantiakaḷukku, pommai) nān) (kāṭṭik, koṇṭirukkirēn)

Combined group:

((kuḷantaikaḷukku, pommai) nān) (kāṭṭik, koṇṭirukkirēn)).

2nd Sentence

Boys:

((kuḷantaikaḷ, mikavum) tollai) tarukinṇanar) tantaiyarkku) tāy)

Girls:

((((tollai, tarukinṇanar) mikavum) (tāy, tantaiyarkku) kuḷantaikaḷ)

Combined group

((((tollai, tarukinṇanar) mikavum) (tāy, tantaiyarkku)) kuḷantaikaḷ)

The word pair for the first sentence 'kuḷantaikaḷukku, pommai' constituted the first cluster for all the girls and the combined group subjects. This pair, however, became the second cluster for the boys.

wherein the first cluster was 'nān,koṇṭirukkīrēn'. The pattern of the remaining word clusters differed widely for all the groups. The nature of hierarchical clustering was essentially similar for the girls and the combined group for the second simple sentence, even though it differed vastly for the boys.

Bilinguals

Tamil – Hindi bilinguals:

The responses as expressed in terms of relatedness values of word pairs for the two simple sentences by the Tamil speaking Hindi knowing bilingual subjects are given in table 3a-4c. These data encompass all the three groups of subjects. The hierarchical clustering structure as revealed after the analysis is depicted in figure 3 and 4. Given below are the bracketed forms of the dendrograms derived from the above analysis.

1st Sentence:

Boys

((kāṭṭik, koṇṭirukkīrēn) ((nān, kuḷantaikaḷukku) pommai)

Girls

((nān, kuḷantaikaḷukku) (pommai, kāṭṭik) koṇṭirukkīrēn))

Combined group

((kāṭṭik, koṇṭirukkīrēn) ((nān, kuḷantaikaḷukku) pommai))

2nd Sentence

Boys

((((tollai, tarukinṇanar) mikavum) ((tāy, tantaiyarkku) Kuḷantaikaḷ))

Girls

((((tollai, tarukinṇanar) mikavum) ((tantaiyarku, tāy,) Kuḷantaikaḷ))

Combined group

((((tollai, tarukinṇanar) mikavum) ((tāy, tantaiyarkku) kuḷantaikaḷ))

The initial cluster 'kāṭṭik koṇṭirukkīrēn' remained the same for the boys and the combined group with regard to the first simple sentence. On the other hand, 'nān'kuḷantaikaḷukku' became the first for the girls group. The organization of words have no similarity among the other different groups. In contrast to the first sentence the most closely related word pair was 'tollai, tarukinṇanar' for all the three groups. The hierarchical clustering structure was similar for the girls and combined group while it differs for the boys.

Hindi-Tamil Bilinguals

As stated earlier for the Tamil-Hindi bilingual subjects, the data pertaining to the word relatedness value and the pattern of hierarchical structures of Tamil sentences on Hindi-Tamil bilingual subjects are in table 5a-6c and figures 5-6. The bracketed form is given below:

1st Sentence

Boys

((kuḷaṇtaikaḷukku,pomma) (nān),(kāṭṭik)) koṇṭirukkīrēn)

Girls

(((kāṭṭik,koṇṭirukkīrēn))(kuḷaṇtaikaḷukku,pomma)(nān)),

Combined group:

((((kuḷaṇtaikaḷukku, pomma) nān)kāṭṭik, koṇṭirukkīrē:n))

2nd sentence:

Boys:

((((tollai,tarukinṇar)mikavum) kuḷaṇtaikaḷ)(tāy,tantaiyarkku))

Girls:

((((tollai,tarukinṇar)mikavum)(tāy,tantaiyarkku))kuḷaṇtaikaḷ)

Combined group

((((tollai,tarukinṇar)mikavum)(tāy,tantaiyarkku))kuḷaṇtaikaḷ)

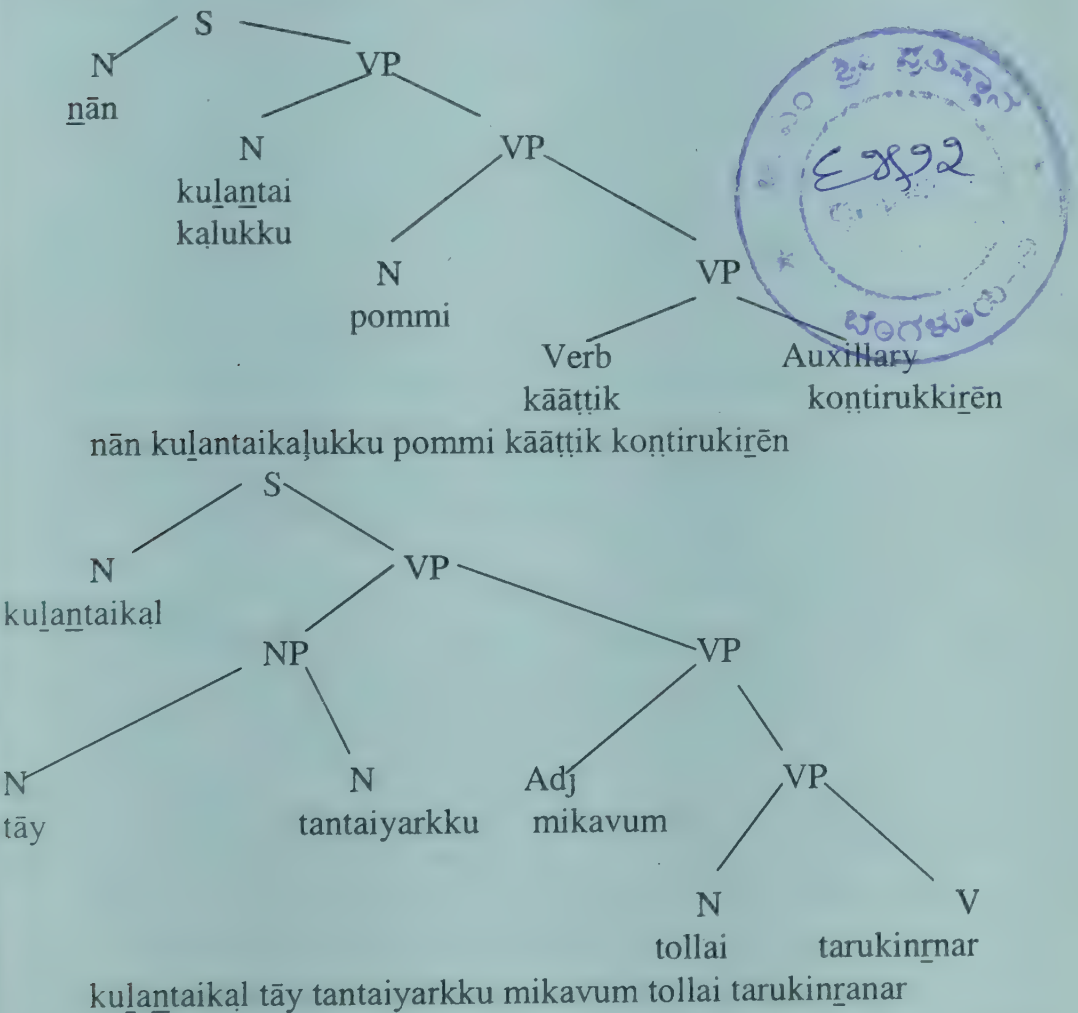
The words 'kuḷaṇtaikaḷukku pomma' were linked as the initial related pair for the first simple sentence in both boys and the combined groups. This word pair became the second clustered word pair for the girl subjects. The initial cluster of words for the latter groups was 'kāṭṭik, koṇṭirukkīrēn'. This initial word pair of the girls group became the second cluster of the combined group. The organizational patterns among the three groups of subjects varied marginally. In relation to the second sentence it is observed that, the words 'tollai, tarukinṇar' became the common first cluster for all the groups. Concerning the hierarchical organization of words, there was stimulation between the girls and combined groups. The corresponding observation made for the boys group differed from the other two groups.

DISCUSSION

The first sentence has the following structure: subject-object-verb. Data on hierarchical clustering indicated that the monolinguals generally organize the sentence into object-object-subject-verb. Hence, in the realigned syntactical form, it is organized as 'kuḷaṇtaikaḷukku, pomma nān kāṭṭik koṇṭirukkīrēn'. The altered word sequence, however, retains the original meaning. Compared to the above, the

second sentence has the grammatical structure subject-object-adjective-object-subject-verb. The monolinguals resequenced its structure as verb-adjective-verb. Thus the sentence with modified word order read 'tollai tarukin_rnar mikavum t_{āy} tantaiyarkku ku_lan_tai_ka_l. Again there was no distortion in its meaning. Even though both are simple sentences the nature of clustering for each is varied. While the objects, both direct and indirect, were clustered frequently in the former sentence, the subject and object were paired in the latter more often. Thus the monolinguals seemed to have taken liberties to resequence the word order without affecting the sense of these sentences. Ultan (1969) opined that 'object-subject-verb' sentence is rarely seen in natural languages. However, a similar condition prevails in the Tamil simple sentence which is a case marked language.

The phrase structure of these two sentences present themselves as follows:



Levelt's work (1964 b; 1970) showed that the phrase structure of a sentence exhibits a good correspondence with the word order, which is based on relatedness value of word pair and their hierarchical clustering. In the present analysis the recorded word of the first sentence based on clustering analysis had no correspondence with its linguistically formulated phrase structure. However, the hierarchical clustering structure perceived for the second Tamil sentence by the monolingual student was in consonance with the phrase structure of that sentence. This apparent condition arising from differential response for these sentences can again be attributed to the inherent word order flexibility allowed by the language and also to the fact that the perceptual process need not necessarily follow the phrase structure as was found by Levelt.

Cluster analysis of the data showed that the first sentence was perceived in the order of verb-subject-object sequence by the Tamil-Hindi bilinguals. Concomitantly this sequence will now read as 'kāṭṭik koṇṭirukkīrēn nān kuḷaṇṭaikaḷukku pommai'. The meaning of the test sentence, however is sustained. The same sentence was organized as object-subject-verb by Hindi-Tamil bilinguals providing a format 'kuḷaṇṭaikaḷukku pommi nān kāṭṭik koṇṭirukkīrēn' which is different from the former. The meaning of the test sentence is conveyed by this format also. Unlike the varied perception of the syntactical alignment for the first sentence, the second Tamil simple sentence was comprehended similarly by Tamil-Hindi and Hindi-Tamil students. Thus, the resequenced word order was 'tollai tarukinṇanar mikavum tāy tantaiyarkku kuḷaṇṭaikaḷ'. Corresponding grammatical form will be verb-adjective-object-subject. This format was identical to the one obtained by Tamil monolinguals.

It is seen that word order sequences of both the sentences at the cognitive level varied within and between the monolinguals and bilinguals. Consequently the phrase structure of the sentence and the deep structure may or may not show good correspondence. This is not consistent with the findings of Levelt (1969b; 1970) with regard to English and Dutch languages. English for instance, is a SVO order language and its native speakers rely strongly on the word order that the S-V agreement cue. Contrastingly, the word order in Tamil is a weaker one and hence, greater variation is possible. Unlike English, the linguistic roles of nouns in Tamil are determined by suffixed case markers and a strong subject verb agreement. Hence, even though,

Tamil is a SOV language, variations as OSV, VOS and VSO patterns of cognition are utilized in both mono and bilinguals.

Previously Bates and Macwhinney (1981) in Italian-English and English-German bilingual, Wulfeck *et al.*, (1986) in Italian-English bilinguals reported that the first language (mother tongue) influences sentence processing in the second language by shifting the processing strategies of the former to the latter. Data analysis of Tamil sentences from bilinguals indicates that the word order varies as much as in monolinguals and that no trace of dominance of the mother tongue is seen. Obviously, the bilinguals do not cognize the sentence in similar ways. There is also no implication of amalgamation of cognitive strategies of the two languages in bilinguals as was reported by Wulfeck *et al.*, (1986) for Spanish-English bilinguals. Therefore it can be concluded that irrespective of mono or bilingualism of the subject, the overriding factor that determines the nature of processing of Tamil sentence is its extensive flexibility of word order creating variations which in turn is related to the noun cased nature and subject verb agreement of the Tamil language.

The foregoing discussion highlights some important aspects of Cognitive Organization of sentences by monolingual and bilingual students. The Cognitive processing of simple sentences by all the three groups of subjects was invariably initiated with the verb of the sentence. The verb assumes Cognitive importance in Tamil because it can indicate and qualify the subject of the sentence. This, however, is not a rigid condition since cognition may also begin with the object of the sentence. Such differences in perception are present, owing to the fact that Tamil as one of the Dravidian Languages permits flexibility of word order without distorting the meaning of the sentence (Antal, 1964).

Table 1 a The mean relatedness for nān kuḷantai kaḷukku pommai kāṭṭik koṇṭirukkīrēn by Tamil Monolingual Boys

Words	nān	kuḷantai kaḷukku	pommai	kāṭṭik	koṇṭiru kkirēn
nān	-	2.17	2.28	2.08	2.30
Kuḷantai- kaḷukku	2.17	-	2.28	2.08	2.00
pommai	2.28	2.28	-	2.16	1.62
kāṭṭik-	2.08	2.08	2.16	-	2.23
Koṇṭiru kkirēn	2.30	2.00	1.62	2.23	-

Table 1b. The mean relatedness for nān kuḷantai kaḷukku pommai kāṭṭik koṇṭirukkīrēn by Tamil Monolingual Girls.

Words	nān	kuḷantai kaḷukku	pommai	kāṭṭik	koṇṭiru kkirēn
nān	-	2.14	1.78	1.98	1.88
kuḷantai - kaḷukku	2.14	-	2.30	2.18	1.88
pommai	1.78	2.30	-	2.21	1.83
kāṭṭik	1.98	2.18	2.21	-	2.08
koṇṭiru kkirēn	1.88	1.88	1.83	2.08	-

Table 1c The mean relatedness for nān kuḷantai kaḷukku pommai kāṭṭik koṇṭirukkīrēn by Tamil Monolingual combined group.

Words	nān	kuḷantai kaḷukku	pommai	kāṭṭik	koṇṭiru kkirēn
nān	-	2.16	2.03	2.03	2.09
kuḷantai kaḷukku	2.16	-	2.29	2.13	1.94
pommai	2.03	2.29	-	2.14	1.73
kāṭṭik	2.03	2.13	2.14	-	2.16
koṇṭiru kkirēn	2.09	1.94	1.73	2.16	-

Table 2 a The mean relatedness for kuḷantaikaḷ t̄āy taṇṭaiyarkku mikavum tollai tarukiinṇanar by Tamil monolingual boys.

Words	kuḷantaikaḷ	t̄āy	taṇṭaiyarkku	mikavum	tollai	tarukiinṇanar
kuḷantaika	-	1.77	2.17	2.25	1.98	2.20
t̄āy	1.77	-	2.14	2.13	1.98	2.05
taṇṭaiyarkku	2.17	2.14	-	2.00	2.08	1.98
mikavum	2.25	2.13	2.00	-	2.22	1.98
tollai	1.98	1.98	2.08	2.22	-	2.19
tarukiinṇanar	2.20	2.05	1.98	1.98	2.19	-

Table 2 b The mean relatedness for kuḷantaikaḷ t̄āy taṇṭaiyarkku mikavum tollai tarukiinṇanar by Tamil monolingual girls.

Words	kuḷantaikaḷ	t̄āy	taṇṭaiyarkku	mikavum	tollai	tarukiinṇanar
kuḷantaikaḷ	-	1.97	1.95	1.73	1.73	1.80
t̄āy	1.97	-	2.28	2.12	2.13	1.90
taṇṭaiyarkku	1.95	2.28	-	2.04	1.80	1.70
mikavum	1.73	2.12	2.04	-	2.20	2.03
tollai	1.73	2.13	1.80	2.20	-	2.29
tarukiinṇanar	1.80	1.90	1.70	2.03	2.29	-

Table 2 c. The mean relatedness for kuḷantaikaḷ t̄āy taṇṭaiyarkku mikavum tollai tarukiinṇanar by Tamil monolingual combined group.

Words	kuḷantaikaḷ	t̄āy	taṇṭaiyarkku	mikavum	tollai	tarukiinṇanar
kuḷantaikaḷ	-	1.87	2.06	1.99	1.88	2.00
t̄āy	1.85	-	2.21	2.13	2.05	1.98
taṇṭaiyarkku	2.06	2.21	-	2.02	1.94	1.84
mikavum	1.99	2.13	2.02	-	2.21	2.01
tollai	1.85	2.05	1.94	2.21	-	2.24
tarukiinṇanar	2.00	1.98	1.84	2.01	2.24	-

Table 3 a The mean relatedness for nān kuḷaṇṭaikalukku pommai kāṭṭik koṇṭirukkīrēn by Tamil-Hindi Bilingual Boys.

Words	<u>nān</u>	kuḷaṇṭaikalukku	pommai	kāṭṭik	koṇṭirukkīrēn
<u>nān</u>	-	2.31	2.30	1.86	2.28
kuḷaṇṭai					
kaḷukku	2.31	-	2.27	1.78	1.73
pommai	2.30	2.27	-	2.09	1.93
kāṭṭik	1.85	1.78	2.09	-	2.71
koṇṭiru					
kkiṛēn	2.28	1.73	1.93	2.71	-

Table 3 b The mean relatedness for nān kuḷaṇṭaikalukku pommai kāṭṭik koṇṭirukkīrēn by Tamil-Hindi Bilingual Girls.

Words	<u>nān</u>	kuḷaṇṭaikalukku	pommai	kāṭṭik	koṇṭirukkīrēn
<u>nān</u>	-	2.33	1.87	1.60	1.55
kuḷaṇṭai					
kaḷukku	2.33	-	2.26	1.98	1.63
pommai	1.87	2.26	-	2.29	1.98
kāṭṭik	1.60	1.98	2.29	-	2.27
koṇṭiru					
kkiṛēn	1.55	1.63	1.98	2.27	-

Table 3 c. The mean relatedness for nān kuḷaṇṭaikalukku pommai kāṭṭik koṇṭirukkīrēn by Tamil- Hindi Bilingual Combined group

Words	<u>nān</u>	kuḷaṇṭaikalukku	pommai	kāṭṭik	koṇṭirukkīrēn
<u>nān</u>	-	2.32	2.08	1.73	1.91
kuḷaṇṭai					
kaḷukku	2.32	-	2.27	1.88	1.68
pommai	2.08	2.27	-	2.19	1.96
kāṭṭik	1.73	1.88	2.19	-	2.49
koṇṭiru					
kkiṛēn	1.91	1.68	1.96	2.49	-

Table 4 a. The mean relatedness for kuḷantaikaḷ t̃āy taṇtaiyarkku mikavum tollai tarukiinṇanar by Tamil-Hindi Bilingual Boys.

Words	kuḷantaikaḷ	t̃āy	taṇtaiyarkku	mikavum	tollai	tarukiinṇanar
kuḷantaikaḷ	-	1.86	1.98	2.03	1.85	2.38
t̃āy	1.86	-	2.42	2.38	1.63	2.10
taṇtaiyarkku	1.98	2.42	-	2.08	2.17	2.08
mikavum	2.03	2.38	2.08	-	2.44	1.90
tollai	1.85	1.63	2.17	2.44	-	2.49
tarukiinṇanar	2.38	2.10	2.08	1.90	2.49	-

Table 4 b. The mean relatedness for kuḷantaikaḷ t̃āy taṇtaiyarkku mikavum tollai tarukiinṇanar by Tamil-Hindi Bilingual Girls.

Words	kuḷantaikaḷ	t̃āy	taṇtaiyarkku	mikavum	tollai	tarukiinṇanar
kuḷantaikaḷ	-	2.13	2.08	1.90	1.93	1.95
t̃āy	2.13	-	2.19	2.02	1.65	1.85
taṇtaiyarkku	2.08	2.19	-	2.19	1.75	2.05
mikavum	1.90	2.02	2.19	-	2.25	1.97
tollai	1.93	1.65	1.75	2.25	-	2.34
tarukiinṇanar	1.95	1.85	2.05	1.97	2.34	-

Table 4 c. The mean relatedness for kuḷantaikaḷ t̃āy taṇtaiyarkku mikavum tollai tarukiinṇanar by Tamil-Hindi Bilingual combined group.

Words	kuḷantaikaḷ	t̃āy	taṇtaiyarkku	mikavum	tollai	tarukiinṇanar
kuḷantaikaḷ	-	2.00	2.03	1.96	1.89	2.16
t̃āy	2.00	-	2.30	2.20	1.64	1.98
taṇtaiyarkku	2.03	2.30	-	2.13	1.96	2.06
mikavum	1.96	2.20	2.13	-	2.34	1.93
tollai	1.89	1.64	1.96	2.34	-	2.42
tarukiinṇanar	2.16	1.98	2.06	1.93	2.42	-

Table 5 a. The mean relatedness for nān kuḷantai-kaḷukku pommai kāṭṭik koṇṭirukkīrēn by Hindi-Tamil bilingual Boys.

Words	nān	kuḷantai- kaḷukku	pommai	kāṭṭik	koṇṭiru kkirēn
nān	-	2.14	2.17	2.15	2.03
kuḷantai- kaḷukku	2.14	-	2.27	2.15	1.93
pommai	2.17	2.27	-	2.02	1.73
kāṭṭik	2.15	2.15	2.02	-	2.10
koṇṭiru kkirēn	2.03	1.93	1.73	2.10	-

Table 5 b. The mean relatedness for nān kuḷantai-kaḷukku pommai kāṭṭik koṇṭirukkīrēn by Hindi-Tamil bilingual Girls.

Words	nān	kuḷantai- kaḷukku	pommai	kāṭṭik	koṇṭiru kkirēn
nān	-	2.27	1.92	1.68	1.88
kuḷantai- kaḷukku	2.27	-	2.37	1.95	1.78
pommai	1.92	2.37	-	2.19	1.97
kāṭṭik	1.68	1.95	2.19	-	2.40
koṇṭiru kkirēn	1.88	1.78	1.97	2.40	-

Table 5 c. The mean relatedness for nān kuḷantai-kaḷukku pommai kāṭṭik koṇṭirukkīrēn by Hindi-Tamil bilingual Combined groups.

Words	nān	kuḷantai- kaḷukku	pommai	kāṭṭik	koṇṭiru kkirēn
nān	-	2.21	2.04	1.91	1.95
kuḷantai- kaḷukku	2.21	-	2.32	2.05	1.85
pommai	2.04	2.32	-	2.11	1.85
kāṭṭik	1.91	2.05	2.11	-	2.25
koṇṭiru kkirēn	1.95	1.85	1.85	2.25	-

Table 6 a. The mean relatedness for kuḷantaikaḷ tāy taṇṭaiyarkku mikavum tollai tarukiinṇanar by Hindi - Tamil Bilingual Boys.

Words	kuḷantaikaḷ	tāy	taṇṭaiyarkku	mikavum	tollai	tarukiinṇanar
kuḷantaikaḷ	-	2.01	2.07	2.08	2.13	2.00
tāy	2.01	-	2.09	2.00	2.00	2.03
taṇṭaiyarkku	2.07	2.09	-	2.08	1.98	1.83
mikavum	2.08	2.00	2.08	-	2.17	1.97
tollai	2.13	2.00	1.98	2.17	-	2.18
tarukiinṇanar	2.00	2.03	1.83	1.97	2.18	-

Table 6 b. The mean relatedness for kuḷantaikaḷ tāy taṇṭaiyarkku mikavum tollai tarukiinṇanar by Tamil - Hindi Bilingual Girls.

Words	kuḷantaikaḷ	tāy	taṇṭaiyarkku	mikavum	tollai	tarukiinṇanar
kuḷantaikaḷ	-	1.83	1.98	2.03	1.93	1.98
tāy	1.83	-	2.28	2.20	1.73	2.03
taṇṭaiyarkku	1.98	2.28	-	1.98	1.98	1.90
mikavum	2.03	2.20	1.98	-	2.27	2.03
tollai	1.93	1.73	1.98	2.27	-	2.29
tarukiinṇanar	1.98	2.03	1.90	2.03	2.29	-

Table 6 c. The mean relatedness for kuḷantaikaḷ tāy taṇṭaiyarkku mikavum tollai tarukiinṇanar by Tamil - Hindi Bilingual Girls.

Words	kuḷantaikaḷ	tāy	taṇṭaiyarkku	mikavum	tollai	tarukiinṇanar
kuḷantaikaḷ	-	1.92	2.03	2.05	2.03	1.99
tāy	1.92	-	2.19	2.10	1.86	2.03
taṇṭaiyarkku	2.03	2.19	-	2.03	1.98	1.86
mikavum	2.05	2.10	2.03	-	2.22	2.00
tollai	2.03	1.86	1.98	2.22	-	2.23
tarukiinṇanar	1.99	2.03	1.86	2.00	2.23	-

SENTENCE nān kuḷantaikalukku pommai kāṭṭik koṇṭirukkīrēn

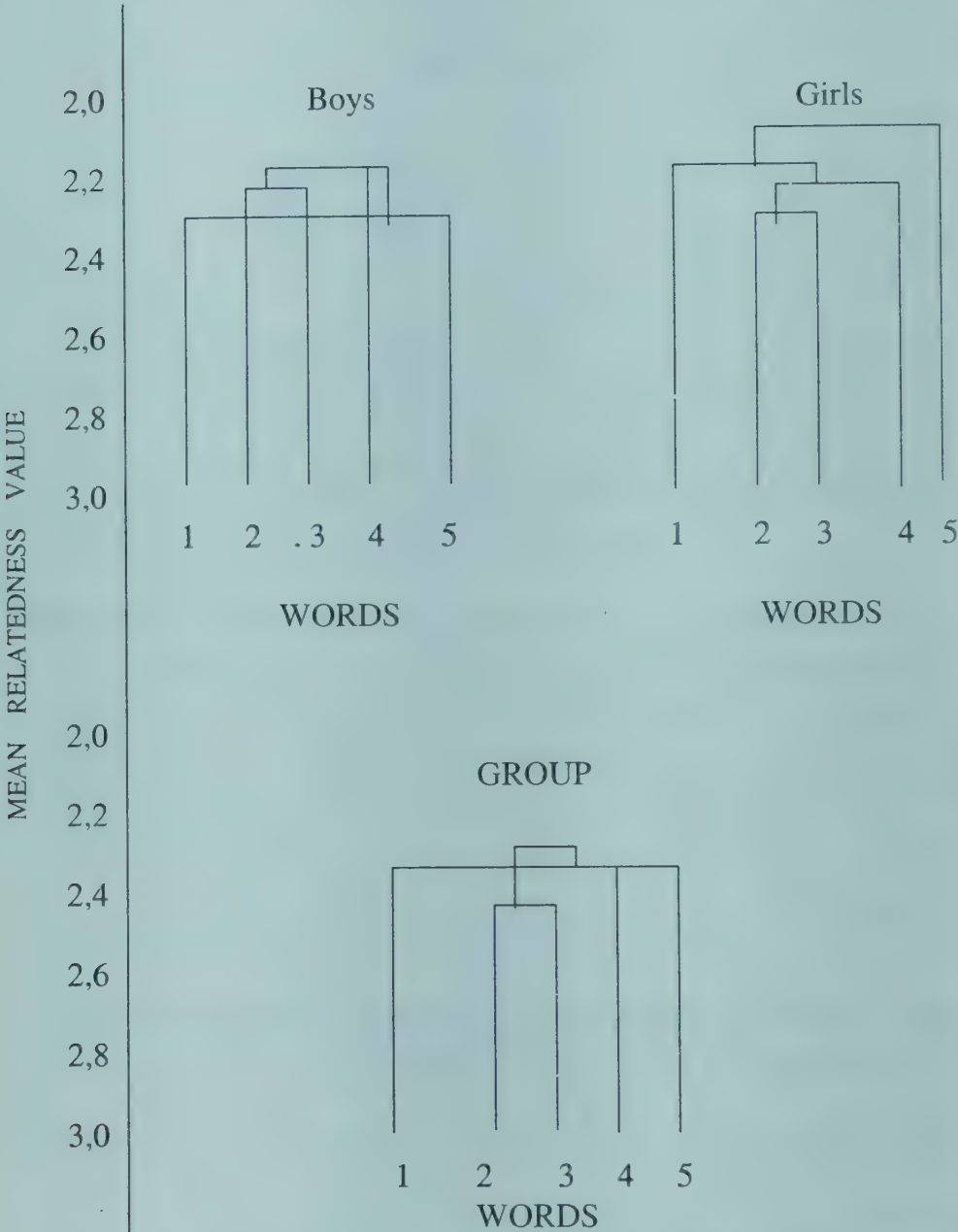


FIG: 1. HCS- SOLUTION FOR A TAMIL SIMPLE SENTENCE-
1 MONOLINGUALS

SENTENCE: ku₁antaika₂l̥ tāy ta₃ntaiyarkku mikavum tollai tarukiin₄ra₅nar

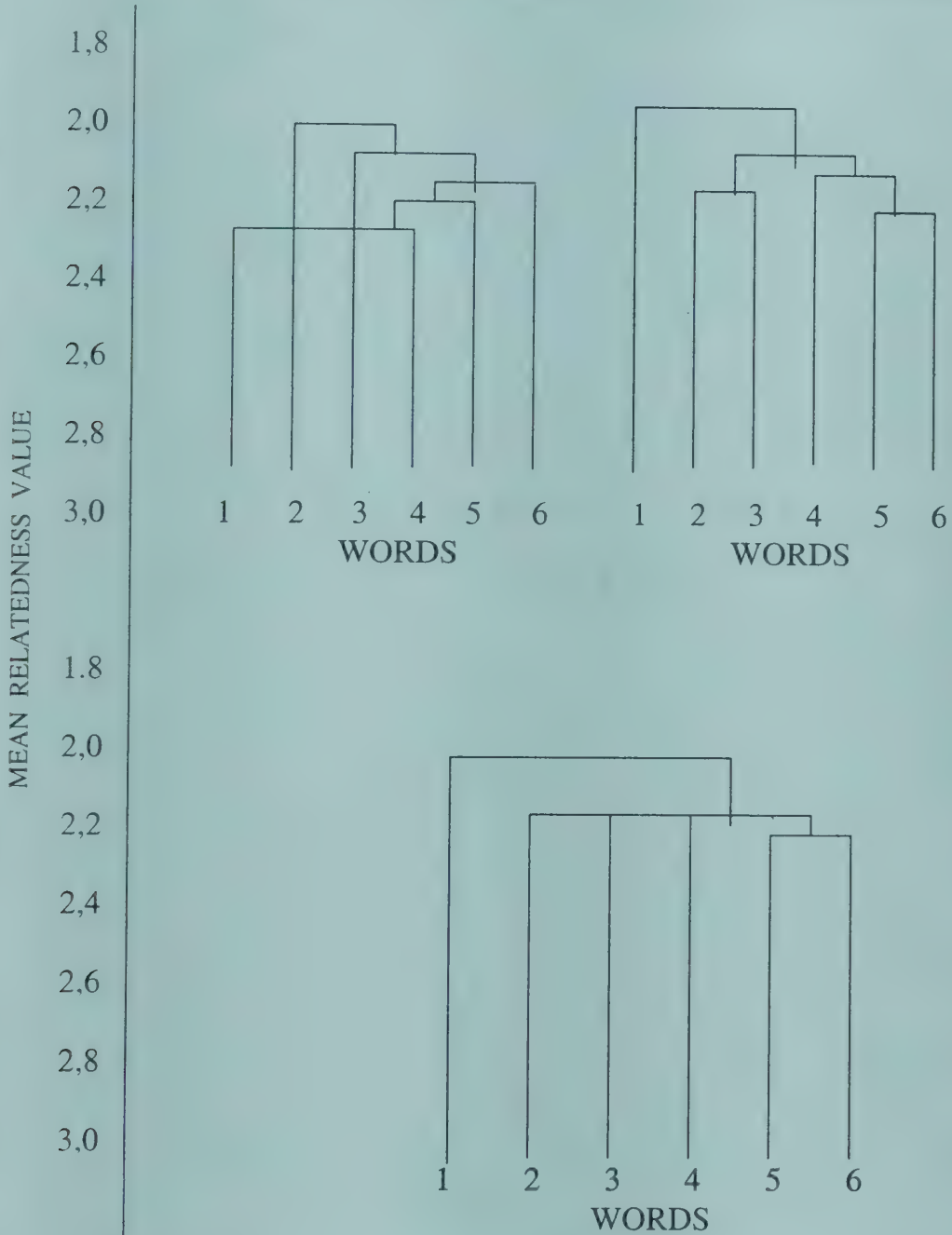


FIG 2. HCS-SOLUTION FOR TAMIL SIMPLE SENTENCE-II- MONOLINGUALS

SENTENCE nān kuḷantaikaḷukku pommai kāṭṭik
koṇṭirukkirēn

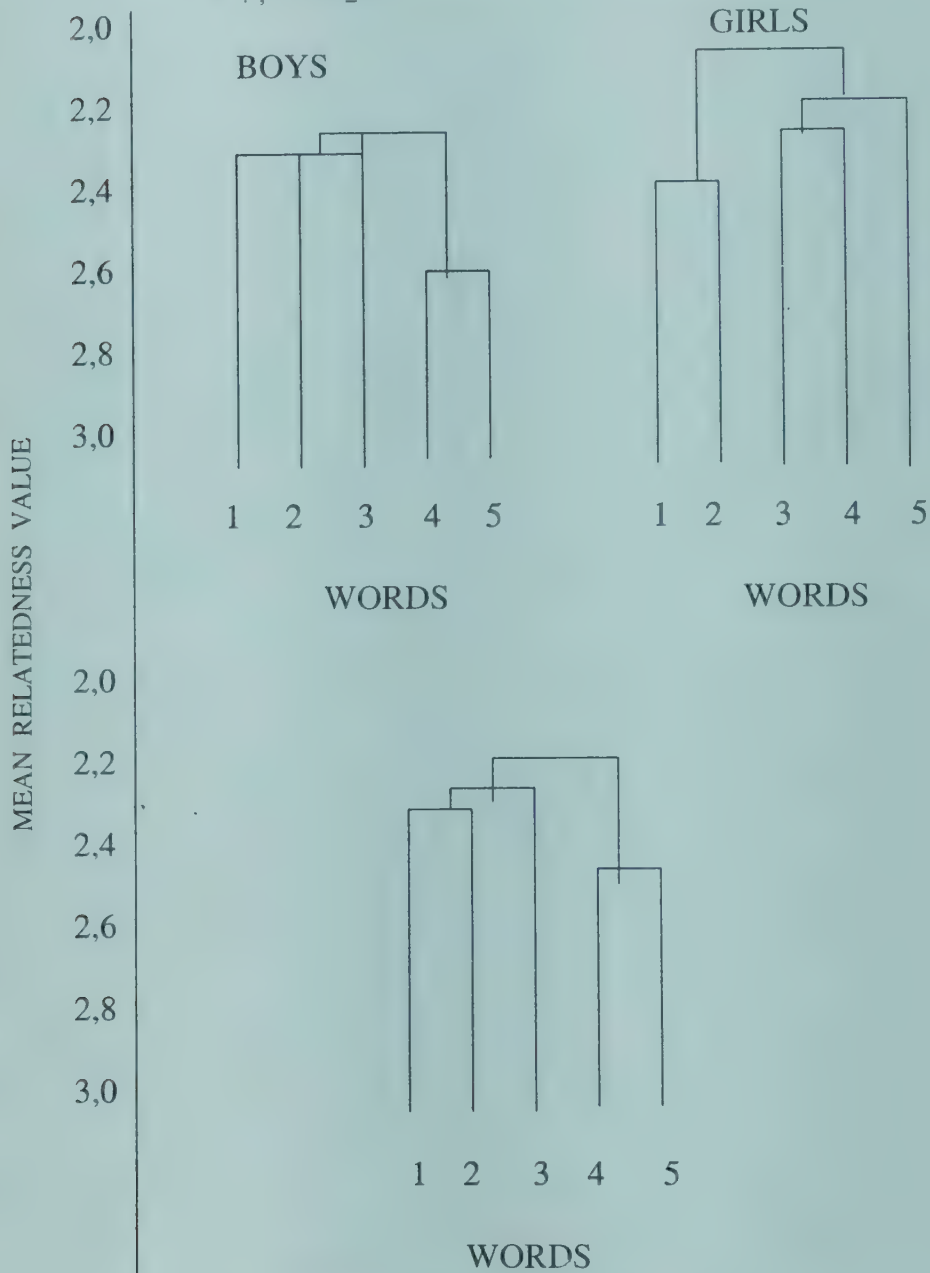
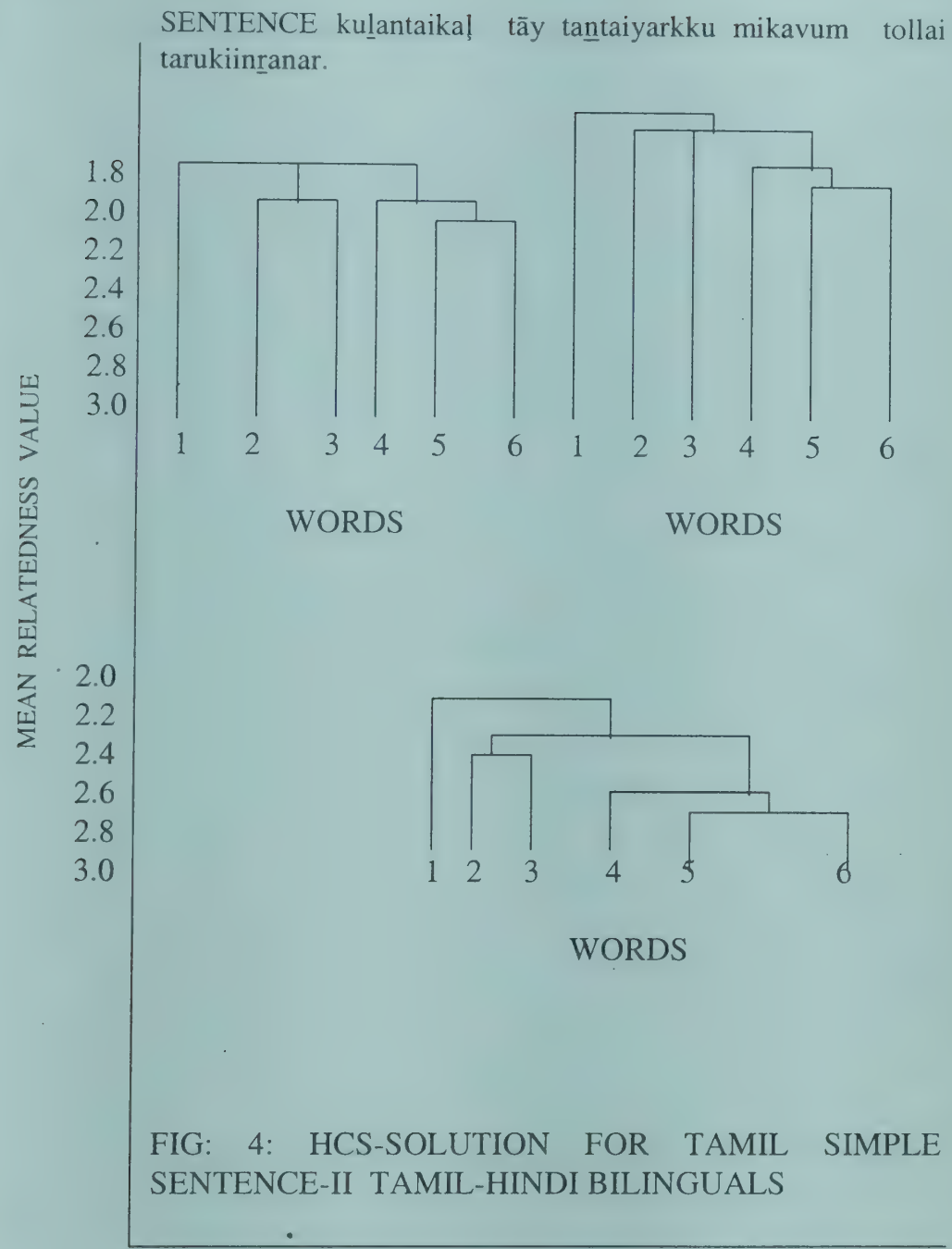


FIG.3: HCS-SOLUTION FOR A TAMIL SIMPLE SENTENCE-1 TAMIL-HINDI BILINGUALS



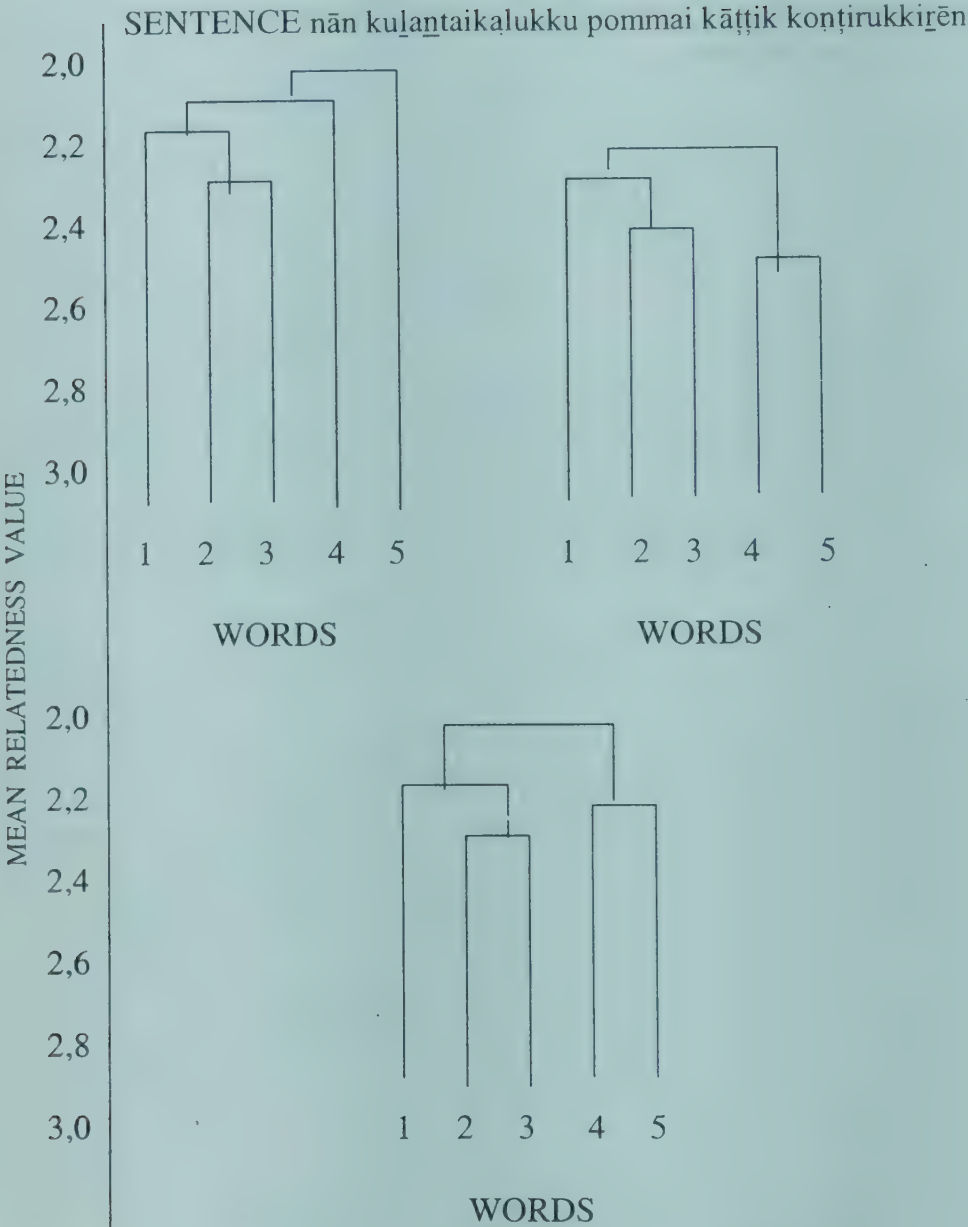


FIG.5: HCS- SOLUTION FOR. TAMIL SIMPLE SENTENCE.1-HINDI-TAMIL BILINGUALS

SENTENCE: kuḷantaikaḷ tāy taṇtaiyarkku mikavum tollai tarukiinṇanar.

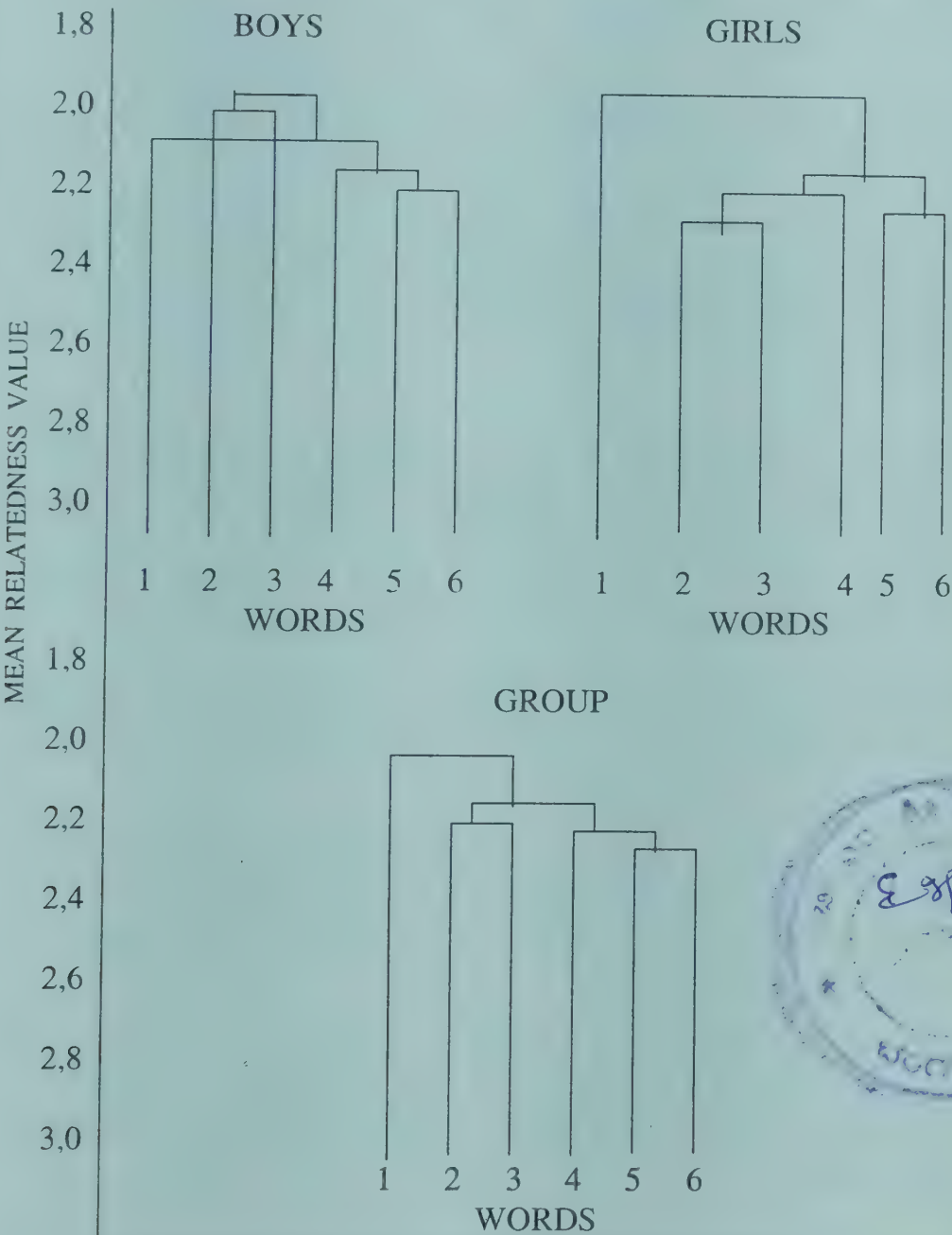


FIG: 6: HCS-SOLUTION FOR TAMIL SIMPLE SENTENCE- II HINDI-TAMIL BILINGUALS.

BIBLIOGRAPHY

Albert, M.L. & Bbler, L.K. 1978. *The Bilingual Brain*. New York: Academic press.

Antal, L. 1964. "Word order and syntactic position", *Linguistics*, 8: 31-42.

Auble, P. & Franks, J.J. 1983. "Sentence comprehension processes". *Journal of Verbal Learning and Verbal Behaviour*, 22: 395-405.

Baba, T. 1986. "Developmental differences in linguistic intuition of word relatedness in a sentence". *Mathematical Linguistics*, 15(5): 155-167.

Bates, E. & MacWhinney, B. 1981. "Second language acquisition from a functional perspective: Pragmatic, semantic and perceptual strategies". In H. Winitz (ed) . *Annals of the New York Academy of Sciences conferences on Native and foreign Language Acquisition* pp.190-214. New York: New York Academy of Sciences.

Ben-Zeev, S. 1972. *The influence of Bilingualism on cognitive Development and cognitive Strategy*. Unpublished Ph.D. dissertation, Chicago: University of Chicago.

Ben-Zeev, S. 1977a. "Mechanisms by which Childhood bilingualism affects understanding of language and cognitive structure". In Hornby (ed.) *Bilingualism: psychological, social and Educational Implications*. New York: Academic Press.

Ben-Zeev, S. 1977b. "The effects of bilingualism in children from Spanish- English low economic neighbourhoods on Cognitive development and cognitive strategy". *Working Papers on Bilingualism*, 14: 83-122.

Bridges, A. 1980. "SVO comprehension strategies reconsidered the evidence of individual pattern of response". *Journal of child Language*, 7: 89, 104.

Johnson, S.C. 1967. "Hierarchical clustering schemes". *Psychometrika*. 32, 3, 241-254.

Levelt, W.J.M. 1967. "Psychological representation of syntactic structures". *Heymans Bulletin* HB – 69-36. Ex Department of Psychology. Groningen University.

Levelt, W.J.M. 1969a. "The perception of syntactic structures". *Heymans Bulletin*. HB-69-30 Ex. Department of Psychology, Groningen University.

Levelt, W.J.M. 1969b. "The scaling of syntactic relatedness: A new method in Psycholinguistic research". *Psychonomic Science*. 17 (6), 351-352.

Levelt, W.J.M. 1970. "Hierarchical Chunking in sentence processing". *Perception and Psychophysics*, 8: 99-103.

Mack, M. 1986. "A study of semantic and syntactic processing in monolinguals and fluent early bilinguals". *Journal of psycholinguistic Research*. 15: 6.

Soares, C. & Grosjean, F. 1984. "Bilinguals in a monolingual and bilingual speech mode: The effect of lexical access". *Memory and cognition*, 12(4): 380-386.

Ullman, Q. 1969. "Some general Characteristics of interrogative systems". *Working papers in language universals*. Stanford University, 1: 41-63.

Vaid, J. & Chengappa S. 1988. "Assigning linguistic roles: Sentence interpretation in normal and aphasic Kannada-English bilinguals". *Journal of Neuro linguistics*, 3, 2, 161-183.

Hilldale, N.J. *Language processing in Bilinguals. Psycholinguistic and neuropsychological perspectives*. Hilldale, NJ: Lawrence Erlbaum Associates.

Wulfeck, B.B. Juarew, L. Bates, E.A & Kilborn, K. 1986. "Sentence interpretation strategies in healthy and aphasic bilingual adults". In Vaid, J. (Ed) *Language processing in Bilinguals: Psycholinguistic*,

Neuropsycholinguistic and Neuropsychological Perceptive Hilldale, N.J: Lawrence Erlbaum Associates .

JAINISM IN SOUTH INDIA

Ed. P.M. Joseph, HB, Demy ¼, pp. 460, Rs. 1000/- (US\$ 125/-)

This book, in two parts, covers everything connected with Jainism- its origin, growth, decline and residual survival in South India. While the first part is the assessment of the contribution of South Indian Jainism, the second deals with its overview. Both are complementary, the second one enabling the understanding of the first. The work clearly illustrates how Jainism became dominant in the South.

CALDWELL AND A.R. RAJA RAJA VARMA ON MALAYALAM GRAMMAR

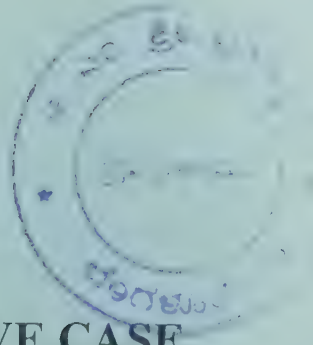
K. Ragavan Pillai, 1/8 Demi, pp. 174, Rs. 250/- (US\$ 25/-)

A comparative study of the views of two prominent grammarians, this work attempts to compare the views of Caldwell and Rajaraja Varma on Malayalam, its reaction with the Dravidian in general and Tamil in particular. The work aims to analyse critically the introduction (*Pitika*) by A.R. to *Keralapaniniyam*, vis-à-vis an evaluation of Caldwell's views on Malayalam grammar and its development. The discerning critic will find this work informative and stimulating.

THE THEORIES OF TELUGU GRAMMAR

B. Purushottam, 1/8 Demi, pp. Rs.500/- (US\$ 50/-)

This is a monograph of immense use to students of Dravidian linguistics in general and Telugu language in particular. The author has surveyed various theories of grammar from the early times to the present day. The work is a comprehensive account of the grammar of ancient and modern Telugu. This book has a subject index which may be of help to the student as a ready reckoner. Neatly printed and beautifully bound, the volume will be a prized possession to lovers of grammar and linguistics.



THE GENESIS OF ORIYA DATIVE CASE

U.P. DALAI

1. INTRODUCTION

Case relations are assumed to be of abstract nature are released variously in different languages.

Fillmore defines the case relations as certain semantically relevant syntactic relations involving nouns and the structure that contains them. According to him, "the cases exist in a hierarchy and this hierarchy serves to guide the operation of certain syntactic process in particular that of the subject selection. It figures in subject selection by determining which noun phrase is to become the subject of the sentence in the unmarked instance. That case in a sentence which according to the hierarchy cases, out ranks the others in the one which has the noun phrase it is associated with and selected as the subject of the sentence" (Fillmore, 1971 b. 37.). He also mentions the case hierarchy of English language in the following manner:- Agent, Experiancer, Instrumental, object, source, goal, location, time etc. (Fillmore, 1973 : 43).

But the concept of case hierarchy of the western type does not seem to appeal to the Indian grammarians- both ancient and modern, who make an elaborate study of the following types of the case relationships on the basis of different semantic ranges:-

Kart (agent or causer) (ii) Karman (objective or accusative) (iii) Karaṇa (instrumental) (iv) Sampradāna (indirect object or dative) (v) apādāna (ablative) (vi) sambandha pada (genitive) (vii) adhikaraṇa (locus or locative) etc. Out of these varieties, the sampradāna (dative) Kāraka which is known as the fourth case ending in Oriya is our main concern here.

2. DATIVE CASE IN ORIYA

Dative is the case which is associated with the motion of "giving". It is also equated with the indirect object. Each language has its own ways of expressing case relationships and due to this fact, the case forms are language specific.

The dative case in Oriya is expressed in the following ways:

(i) By the bound forms like – ka, ki, te, re, etc. and (ii) By free forms like *lāgi* and *sakāse* etc, “for”.

Both bound and free forms are used in Oriya as case suffixes and post positions respectively after the oblique base (in the case of pronoun) and after the nominative or direct base (in the case of nouns).

Moreover, the bound forms are used as Acc-markers with the direct object while the same Acc-markers act as dative markers with an indirect object. Sometimes the bound forms are also used after the oblique and nominative bases in the subject position and thus make nominative subject into dative subject. The bound form –te is used only after the oblique base of the first and second person – both singular. In some cases, the locative markers –re, –thāre etc. are used as acc-and dat –case suffixes which freely vary with –ku, *ñku*, –itt. All the bound forms are used as Acc- and Dat (i.e. there is a merger of Acc- and Dat-) while the locative is extended upto Acc- and Dat- in Oriya.

The following discussions throw some light on the genesis and development of Oriya Dat- construction:-

2.1. **Proto-Oriya**:- (1st century A.D. – 10th century A.D.):-

(i) Khāravēla’s Hātigumphā Inscription (1st A. D.)

Acc- Sg – *ñ*: *hathisa-ñ* (< Skt- *hastyaśvān*) :- “to the elephants and horses”.

Sg – *ñ*- *PaṇādI-ñ* (< Skt-*prañāli-ñ*)- “to the strait”

Pl – *e*:- *arahat-e* (<Skt-*arahataḥ*) – “to the Jain saints”

Yo:- *pakati – yo* (<Skt- *Prakṛtiḥ*) “to the people”

prakṛtayaḥ

Dat- Sg:- *ya- kāyanisidiyā* (<Skt- *kāyanisidyāce*) – “for the protection of the body”

Pl-*ñbamhañā-ñ* (<Skt-*brāhmaṇebhyaḥ*)-“to the Brahman”

tapasi isi-ñ (<Skt-*tapasvirsiñāñ*) “to the saints and seers”

Here the distinction is maintained between Sg and Pl and also between Acc- and Dat. But at certain levels, there is a merger of both Acc- and Dat- (i.e. in the case of –*ñ*).

Dharmaraj Dev’s Nivinā copper-plate grants: -

The distinction between Acc-and Dat- is maintained: -

Acc-*ñ*- *Janapadā-ñ* (<Skt – *Janapadā-ñ*):- “to the villagers or citizens”

Dat –yo:- *Punyābhibrudha – yo* (<Skt- *Punyābhibrdhya*) “for increasing piousness”

BaLirahasta Dev's urulām Inscription (1051-AD):-

Both Acc- and Dat- bear the same case marker-*ku*:- *māṇi ca-ku* – “to a man”.

Cāryāpada (8th C. A.D. – 10th C. A.D.):-

The distinction between Acc- and Dat- is not properly maintained:-

Acc- *ku*, *-kū*-, *-re*, *-te*, *-nta*

Dat :- *ku*/*-ke*, *-re*/*-rē*

Examples: *mo-ku*- “to me”, *to -te*- “to you”.

tānta- “to him/to her”

kāhāre- “to whom/in whom”

abidyākari- ku- “to a violent or untamed elephant like person”.

2.2. Ancient and medieval Oriya (11th C. A.D. – 18th C. A.D.):-

It includes Oriya inscriptions, copper-plate-grants, *mādala pāñji* (the Jaganath Temple records of Puri and Oriya literature):-

Acc-Dat suffixes:- Honorific *-ñku*, *-ñki*, *-ñkA*, *-nke*, *ntA*

Non-Honorific *-ku*, *-ki*, *-ke*, *-kA*, *-kAi*, *-kaye*, *-ko*, *-te*, *-e*, *-r*.

Examples: -

-nku-sidhesvara jenāñku- “to sidheswara Jena” (Sidhesvara Inscription, Narasimha Dev IV)

-ñki- āpAñAñki- “to you” (Bhupal padi Ray's Inscription, Bhanu Dev III)

-ñKA:- *āchajy-ñKA*- “to Sri Acharya” (Lingaraj Temple inscription, Narasimha Dev III)

-nke:- *UkresvArAnaeKAñke*- “to ukresvara Naek” (Lingaraj Temple inscription, Narasimha Dev – III)

-ntA:- *ambhAntA*- “to us” (Jagamohana Rawayan, Balaram Das)

-ka:- *emAnta- ku*- “to this/for this” (*Mādalā pāñji*-Subarna Kesari)

-ki:- *mAnohi- ki*- “for taking meal” (Nisanka Bhanu Dev's Nrusingha Nath Temple inscription)

-ke:- *bArA-ke*- “to the bride groom” (Kalasa cautisa, Batsha Das)

-ko:- *e sAba sAtiA* (xx) *ko*- “to all these truths” (Nrusingha Nath Temple inscription Kapilendra Dev)

-kA:- *SasAnA BAAPAṭāKA*- “to sasana bada pata” (Puri sankarananda Math's copper-plate grants, Narasimha Dev III)

-Kai:- *Mruga- Kai*- “to the dear” (Mahabharata, Sarala Das)

-Kaye- GramA- Kaye:- “to the village” (Puri Sankarananda Matha's inscription, Narasimha Dev III)

-*te*:- *mo-te*- "to me" (Rudrasudha nidhi, Narayanande Abadhut Swami)
 -*re*- *jaha-r*- "by whom/in whom/ to whom" (Mahabharata, Sarala Das)
mo-re- "to me" (Premasudhanidhi, Upendra Bhanja)
 -*bAku*:- *setha-bAku*- "to there" (Gorekh- Mallika Sambada, Gorekh Nath)

2.3. Modern Oriya (19th century A.D. onwards):-

Acc- Dat:- *-ku*, *-ki*, *-ñku*, *-ñki*, *-te*, *-re*, *-e*, *itt* etc.

Examples:- *tumA-ku*- "to you", *hAriku hAriku*, - "to Hari"

NAdi-ku/nAdiki- "to the river"

brahmAne - "to the Brahmins"

(*BrahmAne danA diA*- "Give gifts to the Brahmins")

2.4. Other varieties of Oriya (i.e. Oriya Dialects)

-ke- *himalayA-ke*- "to the Himalayas" (Western Oriya)

ha-ke- "to him/to her" (Desiya of Koraput dist.)

tañke manA -ke- "to them" (Ganjam Oriya)

-ku/-ke:- *bap-ku/bap-ke*:- "to the father" (Northern Oriya)

2.5. The Dative subject: -

Mote kichi khadyA milu:- "Let me be given some food"

My-Dat some food available (Lit - To me some food may be given)

taku kichi bAhi milu:- "Let him/her be given some books".

bhikariku bhikA milu:- "Let the beggar be given some alms".

cf:- Hindi:- *Mujhe cāy cāhiya*:- "I want tea"

I - Dat tea want.

2.6: The dative postposition: - The following postpositions are used in Oriya (ancient, medieval and modern): -

Athe, *Arthe*, *nimit A*, *nimAnte*, *NimitenA*, *pañ*, *Sakase* *sAkasu* *sAkasū*, *lagi*- etc. "for darmathe" - "for religion" (*cāryāpada*)

Kamarthe - "for desire" (Bhanu Dev's Sonapur Inscription)

MohAnimAnte-

MohAnimintenA- "for me" (Jagamohan Ramayana by Balaram Das)

PhulAnimitAi- "for flower" (Purusottam Devalaya Bidhi)

ethipaī - "for this" (Ganda Sahase Malla's Inscription, Narasimha Dev IV)

ethisAKasū - "for this"

Mohā lagi – “for this” Bidagha Chintamani by Abhimanyu Samantasinghar)

• Dative construction in other Indian languages:

3.1 OIA (=Skt): - The distinction between Acc- and Dat is maintained in the OIA period: -

Acc:- *m:- -putra-m*—“to the son”

Dat- *ya:- -putrā- ya-* “to the son”

Such distinction is also clearly felt in the following syntactic construction of Skt:-

Acc-*pitā putram abhi krudhyati*- “Father gets angry with his son”

Dat-*pitā putram krudhyati*- “Father gets angry with his son”

The dative case in Skt. sometimes is used in the genitive sense:

Putrā nām:- “to the son/for the son/of the son”.

3.2 MIA (=Pkt) :- The difference between Acc- and Dat- is also maintained during the MIA period. The examples from Ashok’s Dhauli and Jaugarh inscriptions may be cited here:-

Acc- Sg :- *ñ- jana-ñ-* “to a man”

Pl:- *-ḥ Pajā -ḥ* (<Skt -*prajā-ñ*)-“to the people”

Dat Sg- *ye/-e:- aṭhā-ye/athā-e* (<Skt- *arthā-ya*) “for this”

hitaṭukhāye – “for the pleasure and good (of the people)”

pl-*ye:- -pajāye-* “to the people/for the people” (>Skt- *prajā yei*)

The dative case is also used in the genitive sense in the MIA period:-

OIA (= Skt) = *puraā – nām* > MIA (= Pkt) – *Puttā – nām:-* “to the son/for the son/ of the son”

The post positions in the OIA and MIA:-

OIA (=Skt) does not possess postpositions as such.

But sometimes the MIA postpositions in the “for” is used as *arthe* in the Dat sense during the OIA period.

Besides this, some verbal participles are added to the nouns without inflection which carry the dative sense during the OIA and MIA period:-

OIA:- *rāmāya ditah* – “Given to Ram”

MIA:- *rāmādiyā:-* “given to Rama”

3.3. Munda languages: -

3.3.1) The suffixes :- The Acc-/Dat- case in Munda can be formed in the following ways:-

By objective particle such as *-k0*, *-ke*, *-ken/-en*, *-e*, *-te/-je* etc. which are incorporated into the verbal system of the Munda language.

(i) Santali:-(a) *ñel-et'-ko kan-a-Øñ* (see-present tense-them-Aux verbal-I):- "I am now seeing them"

(b) *paset' jāhan ak' -ko ema -ñ* :- "perhaps they might give me something"

(ii) Birhor :- *onisim iñ -ke ago-iñ-mi*:- "Bring and (give) that fowl to me"

(iii) Korku :- *dij-en kajeij-bo*:- "I will give to that very person (my daughter)"

The Acc-suffix *-ken/-en* used for animate nouns or pronouns in the direct and indirect object carries dative sense in the above example.

(iv) Santali :- *gidra- then maeju- ñ em-ked-e-a* :- "I gave the woman to the child".

Here the thired person Sg *-e* has been used with the verb to represent the direct object which is woman

(v) Kharia: The direct and indirect objects are expressed with the help of Acc-Dat particle *-te*, the palatalized form of which is *-je*.

tuyu- te Maste ter og

Indirect object - Dat meat give past:- " He gave meat to the fox".

The particle *-te* is identical in form with the locative suffix which is used to denote direction in Kharia:-

Kauwa *daru -te leñki*- "The crow flew to the tree"

Besides, *-te* is also used after the demonstrative bases:-

ho-te- "there", *u-te*- "here"

han -te- "there (remote)", *him-te*- "there" (invisible)

The suffix *-je* is used to indicate indirect object:- *ulabu than u-je un - e in-a than han -je un-e*:- "keep it for this man and that one for me".

Here *u-je* and *han -je* carry the dative sense.

Juang: The Acc-Dat suffix *-te* is used with animate known object in Juang. It is also used in the locative sense.

aro aja- te ño-yo- "He saw the grand father"

ai ñ-te juañ -k -a gata -ro -ki ab soñ- i ñ :- " Teach me the language (lit.-words)".

The dative construction is not clear in the Keonjhar dialect of Juang although sometimes the loc-Acc-*te* particle is regularly used as dative with animate noun objects in the verbal sysetem of juang unlike Kharia where *-te* is used as suffix after the noun or pronoun.

Dideyi:- *te* is used as instrumental:-

sun, de? Te so? tɔɔbe:- "Sweep away with broom"

(B) By prefixing *a-* and *-o* :-

Gutob :- *May O-niñ bier o-nom be? Tu*

“Tomorrow he will give you to me”.

Saora :- *Kuni a -tarba- ñji an iñ-ji tiya*

:- Give those flowers to them”.

Bonda :- *a nɔar-na mari daktɔr be? Tin*

:- Where from shall I give you milk”?

(C) By some other methods for forming the Acc-Dat construction:-

Simply the nominative forms are used as Acc-Dat

Saora :- *gamon -ɔn-gu-a* “call the Gamang”

Nouns like personal pronouns are contracted when they are incorporated with words:-

Saora :- *pañ-ti-dar-iñ-te:n*

Bring give cooked rice | PAST Reflexive conjugation 3 Sg Mas

:- “He brought and gave me cooked rice”.

Here the contracted form of *darɔj- ɔn-* “cooked rice” is *dar*

3.3. (ii) The dative subject:-

Kharia :- *Kokra -te mol oy kumru aij-ki*

he DAT/ACC five children be:- “He has five children”.

Munda:- *aiyā ke ente du : rd meyā ghanta howaina*

I DAT here sitting hour be PAST

:- “I have been sitting for an hour”.

3.3. (iii) Postposition:-

then (Skt-*sthana*-“place”)

Santhali:- *maegu-then gidrd- ñ-em-ked-e-a*

	Woman	post	child	I give
(indirect	position	(direct	direct object	
object)	indicating	object)	participle	
	“at” “near”		(3 rd age)	

:- “I gave the child to the woman”

then:- Kharia:- *iñ ulag then daru-te depnaing.*

leaf post

Position tree to ride

:- “I will climb the tree for leaves”.

Lagit/lagat ,lagid- “for” “-

Santhali:- *ɬaka-lagit’ iñ he c’ akana*

Money for I

:- I have come for money”.

HD:- *aiñ-a-lagid*:-“for me”

Hɔtike:-“for”:- Dhenakanal Diabect of Juang-

Aing:a hɔñke-te biri mɔren ceke

:-“what have you brought for me?”

d? oñ :-Sora :- d? oñ is prefixed to the pronoun object for

1st & 2nd

persons as Acc-Dat:-

d? oñ ñen- “to me”

ammele, apsele, aasdn:-

Sora:-so:ra :-*n-ammele*:-“for one savara”

So:ra:-*n-apsele* – “for one savara”

So:ra:-*n-aasdn*- “for one savara”

Dentur,*rentur,dvan*:-

Parengi:-

Guni-dentur non-tini:-“He pierced the girl”.

Jija ka -*rentur muṭha kundem toy*

:-“give a handful of paddy to the begger”

aṛub'-dven le- vaiai

:-“I have come for milk”

lay/pulay-*Gutab:-bandi gogob-lay*:-“for tending cattle”.

Bonda:-*Kuni-pulay tinɔ ♦ berɔ*

:-“he hit down the fowl.

Atla:-*Dideyi-niñ-atla*:- “for me”

Lai/latin- “for”Mundari-

Ini?aia?dasiko buṛia-latin

Kul-ked-ko-a-e .

:-“he sent his servant for old lady.”

3.4 Dravidian Languages

3.4 (1) The Acc-Dat suffixes:--ge (Kannada):-

avanu kappu tegedu kondu jon-ge kotta

:-“He took the cup and gave it to john”.

Kannada (colloquial,Havyaka and literary) has also suffixes like -*kke,ke* and -*nna,-vna,-nnu etc.*

As dative case markers.

Telgu:- Acc-Dat:--*ki*:I

Atanu kappu tisu kuni jānu-ki iččadu

:-“He took the cup and gave it to John.”

Malayalam:- Acc-Dat:-*nd,-e:kkd,-e*

Acc-*ñaan avane talli*:-“ beat him”

He-Acc beat –past

Dat:-*ñaan avanu oru pustakam koṭuttu*

I he-Dat one book gave

:-“ I gave hom a book”

The Acc-Dat market: *kku* is also used in the sense of direction :- *vi:ṭṭle :kku*-“to the house”

Another example:-*ñā:n rāmane kaṇṭu*:-“I saw Ram”

I Ram –Acc saw

Tamil :- Acc-Dat-*kku*:-

Avan kappu eṭuttu jāṇu-kku kuṭuttān

He cup took john DAT gave

:-“He took the cup and gave it to John”.

Jān avaḷ- kku pustakam kuṭuttān

Johan her DAT book gave

“John gave her a book”.

The dative case marker-*kku* in Tamil is used in the sense of direction and purpose as an attribute of noun:-

Direction:- The dative –*kku* in Tamil was isolated from the direction words like ‘*vaṭakku*- north’ and is specialized as a case sign. (History of Tamil language p.100-101) T.P.Meenakshisundaram)

It became dative at the time of Tolkāppiyam)

Purpose :- *punarnilaikku*:- “ for the purpose of sandhi”

Kui-Acc-Dat :- *-ki, -ge, -ji, -gi* etc.

Example :-*āba-ki*:-“ to the father”(Dat)

āba – i:-“ to the father” (Acc)

kōḍi tin –gi tin ba simu (Dat) :- “ gave food to the cow”

ānu eanii bargi site (Acc) :- “ I gave him a command.”

Koṇekor Gadaba :- It has an oblique case which includes Acc-, Dat-, and Gen-, The suffixes for all these cases are *-n, -un, -in* etc.

-n:- occurs after the bases ending in a vowel

māre -n- “ to the tree”

pāto-n- “wife’s brother”

-un and *-in* occur after the bases ending in consonant

kānoṇ -un “ to the cot”

verg-in:-“ to the cat”

(Konekor Gadaba : A Dravidian Language ,P.20 P.B. Rao)

Gondi:- The dative markers are *oniki, -n, -ki* etc

Brahui- The dative markers are *-e, -ki* etc.

3.4 (2) The dative subject in the Dravidian languages:

Kannada:- *avani -ge eradu kanive*-" He has two eyes"

He -Dat two eyes

Tamil:-*ena-kku panam inccayam*

I -Dat money sure/certain

: "Money is certain for me"

Telugu:- (i) *aame-ku amerikka tsue daalaniundi*

: "She wnts to see America"

(ii) *nāku oka pustakam iyyi*:- "please give me a book"

I Dat one book give

Lit "To me a book be given")

Malayalam:- *eni-kkupo:kaṇṇam* :- "I have to go"

3.4 (3) The dative postpositions (in the Dravidian language)

The case postposition in the Dravidian languages are not used as independent words and hence cannot stand by themselves.They have to depend on the bases (nominative or oblique) for their use. Example:-

dabbu-kōssam – "for money" (Telugu)

atani -ki- "to him" (Telugu)

eni-kk- "to me" (Malayalam)

avan-e- him Acc (Malayalam)

remani- gagi – " For remain" (Kannada)

on-ki- "to me" (Toda)

sivaram-ukk- "to Sivaram" (Tamil)

ramanu-kkāka – "for Ram" (Tamil)

The comparable variables: -

1. Oriya.

-*ṇ* (proto-Oriya)

-*e, re* (proto-Oriya)

-*ya, -yo* (proto-Oriya)

-*ku, -ku, -ke, -ka, -kai, -ki*

-*nku, -nki, -nke(-n+ku)*

bAku

te. etc.

2. Munda

-*ke, -ko*

-*ken/-en*

-*te, -je*

–e

o-, a-n (prefix)

3. Dravidian

(1) –ki, –kku, –ikka, –kka, –e:kkd, –ke, –kke

(2) –n, –un, –in, –na, –ne

(3) –ge, –gi

(4) –ji

(5) –e

4. The key- suffixes:-

–k,

–t

–n

–e

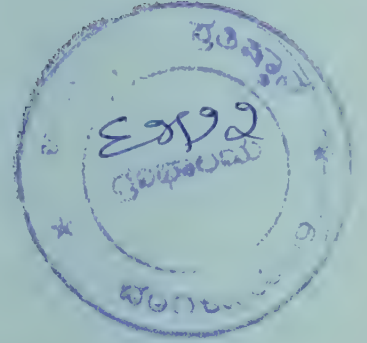
The correlations:-

Oriya: –k type Acc-Dat maybe correlated with Munda and Dravidian –k type suffix

Oriya: –t type Acc-Dat may be correlated with Munda t-type Acc-Dat suffix.

Oriya: –ñ in –ñku(–ñ+ku) may be correlated with OIA –n, Munda–n and Dravidian–ñ

Oriya: –e Acc-Dat suffix may be correlated with Munda –e and Dravidian–e or with OIA and MIA–e suffix.



5. DISCUSSIONS

5. (1) The k-type suffix:- Of all these comparable variables in the Acc-Dat construction, the k-type suffix is most important which is commonly found in IA, Munda and Dravidian languages. The traditional interpretations of the k-type suffix may be cited here for consideration.

(i) The Dat-Acc suffix-ku is derived from

OIA- kṛte (Hoernle, Beames, 1872, Chatterji SK- 1960):-

OIA- tasya kṛte dattam for tasmai dattam> Bengali- take dila (ODBL,P-760 SK Chatterji)

OIA- kṛta shows the Ablen case (Sen 1939: 15-7)

aktva mṛtyu kṛtam bhayam (Skt.Mahabharata):-“ Not being afraid of death.”

(ii) The dative postpositions *-ko, -ke* in Bengali are derived from OIA-*kakse* (ODBL-164,p-553,p-760)

This has been also suggested by Beames(Comparative Grammar of Modern Aryan Languages of India II p-252,-259) and Hoernle (Guadian Grammar, p- 224) and accepted by Kellog (Hindi Grammar,p130) (see ODBL p- 760)

(iii) *-ku, -ko, -ke* etc. are derived from MIA-*kēhi* (locative-“ where”, “some where”)

These two forms are derived from the interrogative pronoun *ka* (Wilson’s philosophical lectures, p-246,248R.G.Bhandarkkar)

(iv) Bengali Dat- *ka < cāryā pada-ka* (genitive)

Mantie thākura -ka parinibittā

:- “The minister (= the queen in the chess),has checked the king.”(*cāryāno4*)

Similarly *nāsaka* – “ for destruction “ (*carya no.21*) is in the dative case.

The Dat-Gen. is common in the middle Bengali (ODBLp-759)

(v) While John Beames referring to the Oriya Dat-Acc case marker *-ku* in his book “ Comparative Grammar of Modern Aryan language of India, p-258-59) says that Oriya *-ku* is a variant of Hindi-*ko*. The reason he states, is that the Oriya do not pronounce */o/* sound fully but give it a soft sound which is very much difficult to distinguish from */u/* sound. He also says that Telugu being a Dravidian language is no way connected with the language of the IA group.

(vi) Besides these, some also derive Acc-Dat, *-ku* in the following traditional ways:-

(a) MIA-*kka ~kahe > NIA- ku*

OIA- *hṛday> MIA- hadakka~hadakaha> NIA-hṛdaku* “to the heart”

(b) OIA-*kṛtam >MIA=* kaā>ka>NIA_Ku*

(c) OIA-*kṛtah> MIA-kee> Apabhramsa- kai> Bengali-ke, oriya-ku, Hindi-ko* etc.

(vii) Apart from the traditional opinions regarding the origin of the Acc-Dat-*ku* in Oriya there are also other opinions which may be mentioned here for consideration:-

(a) The objective case suffixes *-ku, -ki, -ke* etc. in Oriya and Bengali are regarded as borrowings from the Dravidian Languages.

(b) The proto-Dravidian dative marker *-k* has been retained almost unchanged in Tamil and Malayalam (*-ku*), Kota (*-k*) Toda(*-k/-g*) Kodagu (*-ko/-go*), Kannada (*-ke/-ge*), Parji (*-(u)g/-(u)n*), Kui and

Kuvi (-*ki*), Telugu (-*ku*, -*ki*), Tulu (-*ku*/-*gu*), Kurukh (-*ge*), Malto(-(*i*)*k*), and Brahui (-*ki*) (Two lectures on the Historicity of Language Families, P-29, M. Andronov)

(c) According to Caldwell (1974,p-274), “..... In the primitive IE touns, we discover no trace of any such dative case as the Dravidian-*ku*” and further that, “ in the Dravidian languages with exception of gondi, not only is the differences between dative and accusative is essential by strongly marked, but there is less discrepancy amongst various dialects with respect to the particular suffix used to denote the dative then with respect to any other case sign and finally affiliates -*ku* to the Dravidian language family though points out resemblance to Scythian-*kku*”.

Taking all these into consideration, we may say that the Acc-Dat -*ku*, -*ki*, -*ko* etc. as found in the NIA languages, do not originally belong to the IA language family on the ground that they are not found in the Vedic texts and also there is no trace of dative case as the Dravidian -*ku* in the primitive IE languages.

Similarly the -*k* type suffix in Munda seems to be not original due to its irregular use in these languages. Even some Munda languages do not have the -*k* type Acc-Dat suffix. Moreover, there is no such case as Dat-and Acc-in the Munda languages.

Hence the Acc-Dat-*k*-type suffix may be affiliated to the Dravidian family of languages.

5.2 The -*t* type Dat-Acc case:-

The Oriya Acc-Dat -*t* type suffix which is restricted to the oblique base (first and second both singular pronominal forms) only may have the following sources for its derivation:

(i) It may be derived from the admixture of Skt.ablative singular *mat*, *ivat* and Oriya Acc suffix-*e*:-

Mat+*-e* =*mAtr/motr*-“to me”

(Oriya bhasara rupatatia-p133 Beni madhab parhi)

likewise Skt *ivat*+Oriya Acc -*e*= *tAte/tote*- “to you” may be the derivation of Oriya form *tote*-“to you”

(ii) “Oriya has however, one curious exception, making the objective *mote*-“to me” or shortened *mote* instead of *mo-ku*-“to me” which would be the regular form. As-*te* nowhere occurs as a case suffix in Oriya, the only way that I see of accounting for this form is to

suppose that we have here a shortening of the affix *taĩ/tai* which in Hindi and others, has the sense of an objective, so that Oriya *mōte/mate=mo taĩ=mo-tai* "to me" (A Comparative Grammar of the Modern Aryan Languages of India, p.307 John Beames).

(iii) The Acc-Dat-*te* restricted only to the oblique base of the first and second persons in Oriya is identical in forms with Acc-Dat-loc suffix-*te* in Kharia and Juang in which the direct and indirect objects are expressed with the help of *-te*. On the other hand, Kharia does not possess any object participle as such while Juang does possess that which is restricted only to the first and second person only. Such restriction only to the first and second persons as found in Oriya and Juang is also found in the south central Dravidian languages (Kui, Kuvi, Pengo, Manda etc.) in which the transitive particle *tare/tā* (<proto-Dravidian **tarv/tā*)¹ restricted to first and second persons, indicates the presence of an object, be it direct/indirect or Sg/Pl.

It is to be noted here that all these south central Dravidian languages are spoken in the area where some Munda languages are spoken. Further, the Acc-Dat suffix *-te* is also identical in form with the locative suffix in Juang and Kharia. Sometimes the Loc suffix *-re* is used as Acc-Dat suffix in place of *-ku*, *-te* in Oriya and this locative suffix *-re* in Oriya, carries the sense of direction like the Loc-Acc-Dat suffix-*te* of Kharia and Juang.

Finally, the Loc-Acc-Dat suffix-*te* as found in Kharia, Juang is also extended to instrumental in Juang, Dideyi, Ho, Assuri and to ablative in Birhar. This shows the extensive use of the suffix-*te* in Munda which seems to be original in that language family although this form is absent in some of the Munda languages. It can be noticed that different set of suffixes and postpositions are used here in different languages or in different groups of them¹. This might be the characteristic features of the Munda marker both for Acc-and Loc² (of course for others) is also another characteristics of Munda language.

5.3 The -n type:-

The assimilation of I A Acc-Dat suffix *-n* derived from the OIA (= Skt) acc-na :m and the Dravidian Acc-Dat suffix *-k*-type together might have been responsible for the formation of the acc-dat suffix-*n* (*ku*) (e.g.—Skt-n+ Dravidian *-k*= Oriya-*ñku*) in Briya which is used in the honorific sense irrespective of person. This is a clear case of

¹ Studies in comparative Munda linguistics -p. 143, SB Bhattacharya

² Studies in comparative Munda linguistics - p. 158, SB Bhattacharya

hybridization which results from the long contact between Oriya (IA) and Telugu (Dravidian) languages.

Secondly, there might be another possibility regarding the source for the Oriya Acc-Dat suffix of *-n*-type found in *-n(ku)* which has been developed due to its contact purely with some of the following Dravidian languages:-

Kannada: *-am/-am*, *-an(n)u*, *-a/ā*

Kota: *-n*

Tulu, Kisan: *-nu/-nù*

Telugu: *-nu/-ni*

Kolami, Naiki: *-(u) n, -ng*

Malto, parji, gadaba: *-(i)n, -ung*

Gondi, parji: *-(u) n*,

Kurukh: *-an/in*

All these Acc-Dat suffixes of the Dravidian languages are the reflexes of the proto-Dravidian **-am*³

But the *-n*-type Acc-Dat suffix of the Dravidian origin is doubtful due to the fact that the *-n*-type Acc-Dat suffix is followed by an enunciative vowel in Telugu and in other north Dravidian languages which is not the case in the IA language. Similarly the Acc-Dat suffix *-ng* in Kolami, Naiki, Malto, Parji and Gadaba is nothing but a hybrid type which has been formed on the IA model.

On the other hand *-n*-type Acc-Dat suffix in the Munda language seems to be not original due to the fact that it is not uniformly found in those languages. Beside this, various markers on various methods are used in the Munda language to denote the dative construction. Moreover, there is no such case as Acc-Dat in Munda.

It may therefore be said that the *-n*-type Acc-Dat suffix in proto-Oriya might have developed from OIA *-na:m* which is later assimilated with the Dravidian *-k*-type acc-dat suffix. The end result is the creation of Oriya *-ñku* of the hybrid type.

5.4 The *-e*-type Acc-Dat suffix:-

The locative marker used in the Acc-Dat sense, is found in the different languages of India, especially in IA, Dravidian and Munda.

³ Dravidian and Uralian: A peep into the pre-history of language families, Two lectures in the History of language families, p-29. M. Andronov, Annamalai University

But this tendency seems to be not original in the Dravidian and Munda languages due to its limited occurrence in these languages.

On the other hand, this tendency is frequently found in almost all the modern IA languages. Even its occurrence is not impossible in the OIA and MIA languages.

In OIA, the locative marker *-e* is used in the Acc-Dat sense.

Example:-

(i) *Grāme ajām prāpayati*- “He drives the goat to the village”

(ii) *Yastvam rāme prthivim datum icchasi*:- “ That you desire to give the earth to Ram”.

In MIA:-

(i) Pkt:- *Nayare najaami*:- “I do not go to the city”

(ii) *Āpabhramśa*:- *Kariṇā kariṇire rissā* (*Cāryā pada*,No.9):- “ The male elephant is passionate for the female elephant”.

In NIA:-

(i) Bengali:- *Krishnere*:- “in Krishna/ to Krishna”

(ii) Oriya:-

(a) *Maguchi melani to thāre cilika ACC* (Chilika by poet Radhanath Ray)

:- “ I bade farewell to you O’ my dear lake Chilika”.

Here *to thāre* means either *to be-* to you (Acc-Dat) or “tore- “in you”(locative) or *to- tharu* “from you”(ablative)

(b) *brāhmAn• e danA diA*- “ give some gift to the Brahmins”.

The use of locative marker *-e/-re* in the Acc-Dat sense is commonly found in the writings of Vidyapati, a Maithili poet, in old Bengali especially in the Mahabharata of Kasiram Das (A Comparative Grammar of Modern Aryan languages of India, p-259, John Beams and ODBL p-762, S.K. Chatterji). It is also found in old Oriya.

In Bengali, the emphatic particle *-e* added to the singular nominative base, is responsible for the use of locative marker *-e* in the Acc-Dat sense, for example *Krishnere* in the above Bengali example will not be *Krishnare* due to the presence of emphatic particle *-e* added after the word *Krishna* which is in nominative singular. (ODBL, p-762, S.K. Chatterji).

But the tendency of using locative marker *-e* in the Acc-Dat sense seems to be originally developed in the OIA period. (Dative case in Indo-Aryan and Dravidian: contact and interference in the Indian sub-continent –L. R. Prabhoo, IJDL, vol IX, No.2 June 198,p-258)

Hence, the dative case may be considered as really locational in nature which has been inherited by Oriya from its parent stock.

6. The Dative subject:

The dative subject (or the oblique subject or oblique marked subject) is one of the special features of the major Indian languages which is developed under the active process of the dativization of the nominative subject in a syntactic construction. But this special linguistic feature which is present in IA and Munda seems to be not original in those languages since the same is absent in the OIA and MIA. Only NIA languages do have such a feature. Further, Munda languages are verb initial languages with VSO word order in which the subject particle is either used immediately before the verb (i.e. as infix) or is affixed to the verb while the indirect object particle is capable of becoming the subject or of taking any other case if the speaker wishes to change the construction and the direct object as accusative case, is added just before the subject particle affixed to the verbs. (Studies in comparative Munda linguistics p-147-4B, S.B. Bhattacharya).

On the other hand, the Dravidian languages are dative preferring languages and the process of the dativization which is a Dravidian phenomenon does work not only on the object but also on the subject of the sentence. The net result of such a work is the creation of the dative subject or object which is in the oblique form.

7. The postposition:-

The use of case postposition is one of the characteristic features of the agglutinative language like Dravidian. The OIA (=Skt) which is an inflectional language usually does not bear this characteristic of the Dravidian languages. Similarly Munda languages which are infixial in character, although have some postpositions including dative, do not have the oblique base to which the postpositions are to be added like the Dravidian languages.

On the other hand, the postpositions used in the compounds as objects (direct/indirect), attributes, adverbial modifiers etc. during and after the proto-Dravidian stages, lost their original form and force in the course of their constant use and specialized as case suffixes with different shades of meaning (Andronov, 1968).

Moreover, the postpositional habit if it may be so called, brought IA speech nearer to Dravidian and Austric (Kol) and in later MIA, the number was on the increase so much so that a good number of these mostly nouns and a few verb forms were in use widely over the Aryan language area. (S.K. Chatterji, Indo-Aryan and Hindi, p 92)

8. Conclusion:

The following conclusions may be drawn from the foregoing discussions:-

- (i) The Acc-Dat suffix *-ku* or its variants as well as some dative post positions added to the oblique/direct base of the pronominal/nominal construction in Oriya may be due to the impacts of the Dravidian languages. The Dravidian impact is also felt on the development of the dative subject and on the formation of the oblique base in Oriya.
- (ii) The Acc-Dat suffix *-te* added only to the oblique base of the first and second persons- both singular in Oriya, is said to be due to the impact of the Munda languages.
- (iii) The Acc-Dat, suffix- *ñku* in Oriya is formed due to the assimilation of IA Acc-Dat suffix *-n* developed from OIA Acc-Dat *-nām* and Dravidian suffix *-ku* which is a clear case of hybridization.
- (iv) The Acc-Dat marker *-e/-re* in Oriya which is originally a locative marker, is inherited from the OIA (or Skt.)
- (v) Both Dravidian and Munda impacts on Oriya dative construction are felt to be found in the later part of the proto-Oriya in which the merger of Acc- and Dat also took place.

Indian languages make use of various methods of treating the Dat, construction. For example, different cases are formed on the agglutinative method by adding case postposition to the adjectival genitive base (or oblique base) to indicate various case relationships of nouns in the Dravidian languages and in the case of the IA languages, various case relations are expressed on the inflectional method in which there is a fusion of base and case suffixes. This is especially true in the case of OIA (or Skt.), while in the case of Munda languages the Acc-Dat relations are expressed by placing object particles within the verb phrase in proper position. But there is no such case as Acc-Dat in Munda, since Munda languages do not possess anything corresponding to the cases of direct/indirect object. The different particles play the role of object in the Munda languages.

Thus different methods are followed by different language families to deal with the Acc-Dat construction. But due to the close contact among the languages of these three families a common pattern of marking the Acc-Dat construction is evolved (from this contacting situation) which is important from the typological as well as real point of view.

The influence of the Dravidian as well as Munda languages on Oriya in respect of the dative construction is not a singular case in the history of Indian languages. There are also other cases of influence among the Indian languages in which the diffusion of many linguistic elements from one language to the other is very much common. This is especially true on the border areas where an areal trait is over all present among the contacting languages under the process of diffusion.

BIBLIOGRAPHY

- Andronov M. 1968. *Two lectures on the historicity of Language families*. Annamalainagar: Annamalai University.
- Bhattacharya S.B. 1972. "Dravidian and Munda: A good field for Areal and Typological study", *Third seminar on Dravidian linguistics*, Annamalainagar: Annamalai University.
- Bhattacharya S.B. 1975. *Studies in comparative Munda Linguistics*, Simla: Indian Institute of Advanced studies.
- Bilgimi H.S. 1965. *Kharia: Phonology and Grammar* Poona: Deccan College.
- Chatterji S.K. 1969. *Indo-Aryan and Hindi Firma*, Culcutta: K. L Mukhopadhyaya.
- Chatterji S.K. 1986. *Origin and Development of Bengali Language*, Vol II, Culcutta: Rptd. Rupa Andco.
- Dalai U.P. 1978. *Descriptive Analysis of standard colloquial oriya of the Puri District of Orissa*. An unpublished Thesis submitted to the University of Poona.
- Dalai U.P. 1996. "Use of postposition in Oriya: A case of Dravidian Influence", *IJDL, Vol XXV, No.2*.
- Dimock Jr. et al., (ed.) 1992. *Dimensions of sociolinguistics in South Asia*
- Heston W.L. 1981. "Defining Linguistic Area: South Asia", *IJDL, Vol X, No.1, Jan*.
- Masica C.P. "The basic order Typology: As a Definer of an Indian Linguistic Area", *IJDL, Vol III, No.1*.
- Minakshisundaram T.P. *History of Tamil language*, Poona: Linguistic Society of India Deccan College.
- Prabhoo L.R. 1980. "Dative case in IA and Dravidian : Contact and interference in Indian sub-continent", *IJDL, vol IX, No,2, June*.
- Parhi B.M. 1979. *Udrajā prākṛit*, Cuttack: Kitab Mahala.
- Rao Peri Bhasker. 1980. *Konekar Gadaba: A Dravidian language*, Poona: Deccan College.

- Singh Jagdev. 1975. "A case grammar of Hindi by B. Laxmi Bai", *IL, Vol 36 No.2* (Review)
- Sinha A.C. 1975. "The concept of case hierarchical" *IL, Vol 36, No.2*
- Subrahmanyam P.S. 1975. "Deep structure and surface structure in Pān• ini", *IL Vol36, No.4 Dec.*
- Steever Sanford B. 1986. "Morphological convergence, South Asian Languages" New Delhi: *Structure, convergence and Diglossia*, (ed.) by Bh. Krishnamurthy *et al* Motilal Banarasi Dass.
- Steever Sanford B. 1991. *Exceptions to case marking and the grammar of complementation in Dravidian studies in Dravidian and general linguistics, a festschrift for Bh. Krishnamurthy*, (ed.) B. Laxmi Bai, Hyderabad: Osmania University.
- Sinha N.K. *Mundari Grammar*, Mysore: CIIL.
- Shapiro M.C. 1981. *Language and society in South asia Vol I* (ed.) New Delhi: Motilal Banarasi Dass.
- Verma.S.S. 1978. *Munda and Dravidian Linguistics* Punjab University.
- Winfield W.W. A grammar of Kui

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A SOCIOLINGUISTIC STUDY OF RAJI/RAWATI LANGUAGE

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INDIA presents a plethora of pluralities and diversities reflected not only in its ecological and geo-physical features. But also in its races, castes, tribes, dialects and languages. The linguistic diversity manifests itself in the classification of the languages and dialects of India into four groups - Indo-Aryan, Dravidian, Munda and Sino-Tibetan. Some patches of this vast Indian linguistic expanse marked by opulent heterogeneity remain to be charted. One such linguistic patch is Raji or Rawati language spoken by the Rajis, presently inhabiting the submontane region of the district of Pithoragarh in Utitaranchal. This paper aims to present some of the sociolinguistic characteristics of this language which have been observed by me during field work.¹

Raji is a little known tribal community which was brought to light for the first time in 1823 by the then commissioner of Kumaun C.W. Traill. It is said that Rajis or Banrawats are descendants of the prehistoric Kiratas, who were comparatively early settlers of the region than the Nagas and the Khasas. Atkinson (1882) stated that these early tribes entered India by the same route as the Aryans and the Kiratas were the first to arrive than the others. In course of time Kiratas were gradually uprooted from the region by the dominating impact of other ethnic groups; but their few descendants remained in Kumaun and Nepal. In Kuniaun they are called Rajis but they are not aware of their pre-historic Kirati origin. The legend current among them, as told to

¹ A field trip was undertaken by me along with my husband Mr. Helmant in the month of October 1998. Several informants from both the genders and from different age groups (from Altodi and Kimkhola hamlets) were interviewed. A number of tape recordings were made. Again in October 2000 I went to the interiors and visited Askote, Jamtadi and Kuta to collect and verify the data.

me, is that they were descendants of the royal family of Askot². Until a few decades ago they lived a life typical of Neolithic age, as cave dwellers and food gatherers - subsisting on hunting, fishing and jungle produce. They have been identified as a primitive tribe in 1965 and as a Scheduled Tribe in June 1967. Still they cannot be considered as aboriginal as they had not been inhabiting the region from the beginning. In countenance and appearance, presently they exhibit mixed physical traits of Aryans, Dravidians and Mongoloids. It appears that the intermingling of different ethnic elements for ages has caused the disappearance of their original racial features. They have been located living in small, remote and distant hamlets, consisting in all only four to fifteen households. These hamlets lie in a inhospitable terrain amidst dense forests far away from the surrounding Kumauni villages. In 1981 the population was one thousand and eighty seven. Presently their population is six hundred and sixty six living in one hundred and three households.

It may be noted that due to post independent trends of democratization, economic mobility and mass media exposure, many tribal communities in isolated, inaccessible areas are gradually opening up for the intense interaction with the non-tribal world. Their lifestyles and communication patterns are undergoing change. But very little change has been noticed in the Rajis' way of life. The most obvious change which has been observed is that till 1906 they used to cover themselves with leaves and barks of trees called 'mālu', (*bauhinia vahlii*) whereas now they are seen wearing clothes which are common among local people. But they seldom take bath or change their clothes probably due to scarcity of water and poverty, and are living in most unhygienic conditions often in the same hut with their animals. Only about fifty years back Rajis were leading a nomadic life and used to live in caves or makeshift huts called 'mauvas'; but currently they are found leading a sedentary life settled in small hamlets. Yet a deeper look into their socio-cultural realities reveals the existence of quite a few nomadic features. They move from one settlement to another on

² The King of Askot had two sons. One day they both went for hunting in the forest where the elder son killed a cow by mistake. Killing a cow is a taboo in Hindu religion so he felt ashamed of himself. He fled to the jungle to escape from the situation. The younger son then ruled the kingdom. Rajis are descendants of the elder son.

the appearance of any natural, socio-economic, ecological or supernatural exigency. For instance they abandon the house in which a member of their family dies.

A close look at the traditional Raji socio-economic framework and its linkages reveals that these people have, for centuries in the past, managed to live almost an isolated life and have remained completely cut off from the main stream of culture. They still live in isolation and prefer to keep themselves confined to their remote and inaccessible dwellings. Their self imposed aloofness could be judged from the fact that Kumauni people used to call them 'invisible traders'. A few decades back they used to leave their crudely made wooden bowls like 'theki', 'palā', etc. at the door steps of affluent people at night along with symbols indicating the items they desired in exchange. And they stealthily visited the spot the next night to collect the items. But for some decades now situations are changing and they are gradually shedding their shyness, and a few of them visit market places to sell their wooden products still strictly to a few chosen shopkeepers. Rajis call themselves Hindu by religion, but their deities and gods are different³. Like other people of the Himalayan region they believe in spirits, goblins and spirit medium. Apart from birth, marriage and death they observed no other rituals. They consider birth of a child as a blessing of God but do not name the child before six months, perhaps because of the high rate of infantile mortality. They only look after their children up to the age of six years. After that he is supposed to lend his hand in economic pursuits. Community endogamy and the village and clan exogamy are the prevalent custom amongst the Rajis; and their violation though accepted is not encouraged. They have quite a different ritual of wedding and the custom of bride-price exists in this community. Mostly nuclear families are found in this community. A married son has to look after his wife and children independently. Among Rajis the woman, in principle, holds a comparatively low status because of the custom of patrilineal inheritance and patrilocal residence within a broadly patriarchal system. But in practice she possesses a key status and is the pivot around which the whole

³ Their chief gods are 'churmul and 'chiplakot'. 'Amabubu' is the name of the goddess which helps them in solving problems and in calamities; whereas 'sameji' is a demon spirit which harms. Their temples are always situated at places hidden from view.

community system revolves. Rajis have a peculiar death custom. They neither burn nor bury their deads but leave the dead body in the forest to be consumed by wild animals.

Surprisingly enough, customary expressions of joy and fun, so usual among tribal communities seem to have very little place in Raji culture. They do not even have linguistic expressions for such activities in their language⁴. It is rather strange that living amongst such rich herbal surroundings as they do, they do not even try to nurse or treat their sick and use a very few herbal medicines⁵. It seems, they prefer to die a natural death.

The socio-economic, cultural and ecological factors have greatly moulded and influenced the language of the Rajis which is often named as Rawati or Raji. There are differences of opinion about the genealogy of this language. According to a few linguists, Raji is probably a descendant of the Tibeto-Burman family⁶. On the other hand, some linguists have suggested that the linguistic components of Raji language are paleo-linguistic relics of some of the Munda dialects, which in the ancient past were spoken in the Himalayan region⁷. Though on the basis of collected data the researcher could underlie many valuable typological observations, none of the features shed any light on the genetic affinity of the language itself. Most of the old Raji people are monolinguals, especially those who reside far away and in inaccessible places. But the hamlets such as Altodi and Kimkhola which are close to Kumauni localities, have many bilingual speakers (i.e. Raji-Kumauni) who are mostly young and middle aged, and there are a few Raji-Kumauni-Hindi trilingual speakers also. They speak Raji on almost all occasions within their own settlement; but when they visit market or work place they use local Kumauni dialect in both occasions i.e. while talking to an outsider and among each other. This shows that they consider Kumauni as an important and powerful language. Probably that is why, when I inquired the name of their own language, they mentioned it as '*junggali*'.

⁴ They use nachcho and gana words for dancing and singing which are clearly loan words from Hindi.

⁵ 'Kilmora' is the name of the only herb mentioned to me, which is used for minor ailments such as headache and stomach-ache.

⁶ Grierson, G.A. (1959) Linguistic Survey Of India.

⁷ Sharmna, D.D. (1985) The Formation Of Kumauni language.

The lexicon of the Raji language is very limited and restricted to the names of things, objects, activities and actions which immediately come within the realm of, and are closely associated with their cultural, ecological and physical environment. Of course, nouns used by them are loan words (Bodo, Nan, Thul etc.). Many actions and activities which are distinguished separately and denoted by different words in Kumauni and Hindi are either expressed by a single word or are not expressible in Raji at all. For instance-

‘to go’; ‘to walk’ = *gā*

‘to eat’; ‘to suck’; ‘to chew’; ‘to swallow’ = *jā*

‘to stop’; ‘to catch’ = *haun ko*

They have no expression for actions like ‘to jump’ and ‘to crawl’. My repeated inquiries could not elicit any reaction from them. It is interesting to note that the concept of killing is alien to Raji psyche. Raji verb *hāte ko* = ‘to kill’ is used only for killing animals. This is perhaps because of their peace loving nature and simplicity.

In the sedentary and self-centered life of the Rajis, one seems relevant to the extent of one’s ability to barely survive in a harsh and inhospitable environment. There seem to be no place for mutual affection, sensitivity and warm feeling at least in my cursory and limited observation, handicapped as it was my inability to penetrate their rigid social aloofness. They do not use any form of salutation either to strangers or to relatives or friends. Even gestural form of welcome is absent. A quite striking feature of the Rajis seems to be the absence of the sense of liability of the elders to their youngsters. Therefore the language lack in expressions in this sphere; and there are absolutely no honorific expressions. The common form of address ‘lao’ used by the wife to call her husband not only seems to reflect her dominance but also her disrespect. Their kinship terminology is classificatory and similar terms denote patriarchal and matriarchal lineage. For instance-

niyān – is used to denote wife of mother’s brother (maternal aunt) and father’s sister.

chimā: – is used to denote mother’s younger sister and father’s younger brother’s wife.

dukkaiyā: – is used to denote father’s elder brother, father’s younger brother and mother’s younger brother.

Their nuclear family pattern is further exhibited by non-existence of words for grand-parents on both sides. If needed terms, which denotes father (*ba/bubu*) or mother (*ya*) are used. When asked about their great father they replied, “who has seen him? we don’t know.”

At the grammatical level, Raji word view and psyche is witnessed in the functions of some of the pronoun categories. Raji has first, second and third person pronoun forms with no gender distinction. For instance-

	Masculine	Feminine
First person	<i>nā</i>	-
Second person	<i>nang</i>	-
Third person	<i>ai</i>	-

They have two forms of first person pronoun-na (-listener exclusive) and nha (-listener inclusive). Number is expressed lexically by separate item ‘jamma’. Further, the absence of time and tense distinctions in Raji language is explicable in terms of Raji living. As they seem to live only for today and do not bother about future, their language has only present verb forms and the expressions for past and future actions could not be found despite repeated efforts. For example-

nang gāsi - ‘You go’; ‘You will go’; ‘You went’.

byār pithorāgarīye gā- ‘I am going to Pithoragrah’; ‘Tomorrow I will go to Pithoragarh’; ‘yesterday I went to Pithoragarh’.

hāji gārio - ‘Are you going?’; ‘Will you go?’

dā:garao hao - ‘There is a girl’; ‘There was a girl’.

There is also no separate lexical or grammatical element to denote yesterday/tomorrow’s distinction. The word ‘*byār*’ is used for both; probably the context might tell the utterance denotes yesterday or tomorrow.

Due to the contact during the last fifty years or so, Raji language has borrowed many words from Kumauni, the language of the neighbouring people. A few Rajis now often come in contact of government servants who visit their places to monitor developmental schemes have not so far affected their socio-economic status, but surprisingly enough, have greatly influenced their language. The local Kumauni language and dialect seems to play a dominant role. So they try to use as many Kumauni words in their speech as possible. Other

reason can be that they wish to be identified with Kumauni people. At times inspite of having expressions in their own language, they use Kumauni words even amongst themselves. This tendency is particularly in kinship words. For example-

Raji	Kumauni	English
<i>dukkiyā</i>	<i>kakkā</i>	'Father's younger brother'
<i>yā</i>	<i>ijā</i>	'Mother'
<i>bā/būbū</i>	<i>bābū</i>	'Father'
<i>gaire</i>	<i>ratte</i>	'night'
<i>ningala</i>	<i>bara</i>	-

They have borrowed many terms for new experiences, objects and practices which are mostly loan blends. For example-

<i>narang</i>	orange
<i>kerā</i>	banana
<i>hilādi</i>	turmeric
<i>palang</i>	spinach
<i>tilang</i>	sesame

As Rajis seem to live only for the present, the concept of storing and hording seems to be alien to their nature. One reason for their lack of original numerals beyond six can be attributed to this socio-economic aspect of their life. But gradually things are changing and now they require other numerical expressions also. So they use loan words from Kumauni with little or no phonetic modification, such as *khatt*, *aṭṭha* etc. Similarly borrowed words are used for measurement of space, volume, weight, and quantity. So far as the perception of colours is concerned they recognize only three basic colours - black, red and green, and their other colour terms are loans from Kumauni.

In conclusion it may be said that Raji language stands out as a typical example of a fossilized language spoken by a small group of people that has survived as a relic in an isolated environment. Its limited lexicon, as reveled to me in a brief span of time speaks of its linguistic primitiveness and poverty attributable to its almost complete insularity imposed by a harsh and inhospitable geo-physical environment. But if this still unexplored language is to be saved from a gradual but certain extinction, extensive fieldwork should be done to record and analyse it. Gradually but surely this primitive language is losing its originality due to the ever-increasing contact of the Raji

people with their linguistically richer and economically prosperous neighbours and if sincere efforts are not made to conserve and preserve this rare language it would be entombed for ever into obscurity.

EARLY INSCRIPTIONAL MALAYALAM

K. Retnamma, 1/8th Demi, Rs. 350/- (US\$ 35/-), pp. 340

A data oriented report, the book contains 45 inscriptions belonging to the I-IV century Kollam era. This book focuses on the origin and gradual development of the Malayalam language during the subsequent centuries. Historians and linguists will find this analysis helpful in outlining the early period of the Malayalam language.

POINTS OF CONTACT BETWEEN PRAKRIT AND MALAYALAM

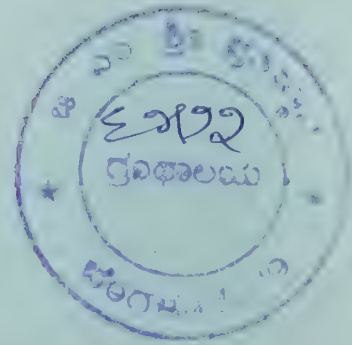
M.P. Sankunni Nair, 1/8th Demi, Rs. 400/- (US\$ 40/-), pp. 250

This scholarly work deals with the inter-relation between the Prakrit and Malayalam languages, analyzed in a new perspective. Thorough in citing sources, the author has made a solid contribution to the study of Malayalam.

AUTOMATIC TRANSLATION (SEMINAR PROCEEDINGS)

Harikumar Basi (ed.), Rs.200/- (US\$ 40/-)

This reasonably-priced 200-page book is a compilation of 6 papers by researchers and research groups actively engaged in *machine translation* in India. The elaborate presentation of various approaches to machine translation systems that are already working, and ongoing projects, would benefit students and researchers in the field. Each paper is followed by discussions touching on all aspects of the problem, with active participation of linguist and computer scientists.



VERB REDUPLICATION IN ASAMIYA*

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1.0. The study of the reduplicated structures in Asamiya - an eastern Indo-Aryan language reveals the fact that, though reduplication is a general morphological feature of the language, some specifications can be drawn from the functional point of view and as a result from the semantic point of view as well. An attempt has been made in this paper to study the reduplicated verbs from the point of view of its occurrence in the language, its function and semantic interpretation. Both the kinds of verbs, finite as well as nonfinite are reduplicated in Asamiya with specifications of their occurrence, which are related to tense, aspect and person. The reduplicated finite as well as nonfinite verbs have been dealt with in the following sections one after another.

1.1 Reduplicated Finite Verbs

In relation to the finite verb forms the following specifications regarding tense, aspect and person have been observed.

1. Reduplication of verb forms in all the three persons of the future tense are possible. But the reduplicated future form in the first person is the most frequently used form in the language.
2. Verbs belonging to the simple present tense are reduplicated in the first person only.
3. Reduplication of verb forms belonging to the present perfect tense in first person and third person is potentially possible.
4. Verb forms belonging to the present tense in the imperative mood are never reduplicated.
5. Asamiya verb forms in the present continuous tense are never reduplicated.
6. Reduplication of Asamiya verbs is not possible in their past forms.

* I am thankful to my teacher Dr. (Mrs.) Krishna Bhattacharya for her valuable suggestions in preparing the paper.

Now examples of finite verb forms which can be reduplicated are given below:

i) Reduplication in Future tense

1. tumi zamzam bulio nngOla.

you go-Fut. 1st go-Fut. 1st say-conj.emph. Neg. go-past 2nd

'Though you desired to go, you didnot turn up.

2. 'bilahikhini dekhi kham kham zen lagise.

tomato-Det. see-Conj. eat-Fut. 1st eat-Fut. 1st as if seem-Pres.Cont.3rd

'Having seen the tomato I feel like (tempted to) eating.'

3. tumi phutibnktai zoar kntha xihmMtak knba knba zen lagise.

you for outing going talk they-Acc. say-. Fut.2nd say-Fut. 2nd as if seem Pres.Cont.3rd

'It seems (to me) that you are going (wishing) to tell about our going out.'

4. xi íarpnra zabn)zabn zen lagise.

he herefrom go-Fut. 3rd go-Fut.3rd as if seem-Pres.Cont.3rd

'It seems that he wishes to go away from here.'

In this connection it is to be mentioned that, reduplicated future tense in the first person is more widely used than that of the second and third persons. It has been reported (by the informants) that the reduplicated second and third person forms of the future tense have the potentiality to occur in the language, though such forms are reported not to be used frequently as it is found in case of the reduplicated first person form of the same tense.

ii. Reduplication in Simple Present tense

5. bn rOxunahoM ahoM kOrise.

rain come-Pres.1st come-Pres.1st do-Pres.Cont.3rd

'The rain is about to come'.

6. knroM knroM buli bhabio mmi

do-Pres.1st do-Pres. 1st say-Conj. think-Conj .emph. I

kamto kOribn noWariloM.

work-det. to do to be unable-past 1st

'Though I thought of doing the work, I could not.'

(= Though I wished to do the work, I could not).

1.1. The class changing type of the reduplicated verb forms can be of two types. The first category consists of the reduplicated verb forms which act as nominal modifier from the functional viewpoint. An example is given below:

7. t̥eoMr z̥noM z̥noM n̥b̥st̥ha dekhisiloM.

he (honf) - Gen. go-Pres. 1st go-Pres. 1st condition see Pres- pf 1st

'I saw him in almost dying condition.'

The second category consists of those reduplicated forms which constitute the first member of the composite verbs (also called conjunct verbs), and are functionally verbal modifiers. Examples are given below:

8. b̥r̥Oxun dioM dioM kOriSe.

rain give-pres. 1st give-Pres. 1st do~Pres.Cont.3rd

'The rain is about to (give) come.'

9. pOrikkhah̥noM h̥noM kOriO n̥hOl

examination be-Pres. 1st be-Pres. 1st do-Conj.Emph.
Neg.be-Past 3rd

'The examination (which was) about to take place, did not (take place).'

However, it is evident from the above discussion that reduplicated finite verbs that change their class are nominal modifiers, and verbal modifiers. But the reduplicated non-finite verb of the language will be found to be verbal modifiers only from the functional point of view. This will be cussed in the following section.

1.2 Reduplicated Non-Finite Verbs

I. Reduplicated Imperfective Participle

10. xi zaoMte zaoMte pOri gOI

he go-Impf.Parti. go-Impf.Parti. fall-Conj. Go-Past 3rd

'He fell while (he was) going.'

11. puzat b̃hoMte b̃hoMte deri hOisil.
 worship-Loc. sit-Impf.Parti. sit-Impf.Parti. late be-Past pf. 3rd
 'By the time (he) sat for worship, it was quite late.'

12. teoM khaoMte khoMte k̃tha kOisil
 he(Honf.) eat-Impf.Parti. eat-Impf.Parti. talk say-Past Cont. 3rd
 'He was talking while eating.'

II. Reduplicated Perfective Conjunctive

13. lOrato kandi kandi gOisil.
 boy-Det. cry-Conj. cry-Conj. go- Past Cont 3rd
 'The boy was going while crying.'

14. xi pOrhi pOrhi topOni gOise
 he read-Conj. read-Conj. sleep go-Past Cont. 3rd
 'He was sleeping while reading.'

15. puteK̃r k̃tha kOi kOi tar mak mOri gOl
 son-Gen. talk say. Conj. say-Conj. he-Gen. mother die-Conj. Go-Past
 3rd
 'His mother died of talking (remembering) her son.'

1.3. Reduplicated verb roots with the derivative suffixes '-u' & '-o'

Some Asamiya forms can be observed in which verb roots with the derivative suffix '-u' or '-o' are reduplicated. These reduplicated structures behave like either nominal modifiers or verbal modifiers. Following examples can be considered:

16. tar tetia mOro mOno mb̃st̃ha
 he-Gen. then about to die condition.
 'At that time he was almost dying.'

17. pukhuriṭa panire dubu dubu mb̃st̃ha.
 pond-Det. water-Instr. about to sink condition.
 = overflooded
 'The pond is over flooded.'

18. tar mOnto uru uru hOise.

he-Gen. mind-Det. about to fly be~pres.pf.3rd

'His mind has become indifferent (as if about to fly).'

1.4. Semantic Features

Semantic specifications of the reduplicated verbs has been discussed in this section. The semantic features of the reduplicated Asamiya verbs are five in number, viz,

i. Simultaneity of action

ii. Uncertainty or Indefiniteness

iii. Continuation or Repetition and Eventuality of action

iv. Imminence, and,

v. Desideration

i. Simultaneity of action

In order to indicate more than one action taking place simultaneously or at the same time Asamiya nonfinite verbs ending in '-oMte' (imperfective participle) are reduplicated. Examples:

19. saoMte saoMte xi dristir egzs Or hOl.

see-Impf.Parti. see-Impf. Parti. he sight-Gen. invisible, be-past 3rd

'He went out of my sight while (I was) looking at him (within no time, in front of me).'

20. kztha patoMte patoMte bOht rafi hOisil.

talk establish-impfparti. establish-impfparti. lot night be-past pf.3rd

'It became quite late at night while talking.'

ii. Uncertainty or Indefiniteness

The reduplicated nonfinite verb forms (imperfective participle) ending in '-oMte' are often found to convey a different (different from the above mentioned type) semantic interpretation. The uncertainty of time or lapse of time along with a sense of indefiniteness is expressed by these reduplicated imperfective participle when used in a particular type of sentence different from the type of sentence mentioned above. Some examples are given below:

21. olaoMte olaoMte tar pzlzm hOi gOl.

go out-Impf.Parti.go out-Impf.Parti.he-Gen. late be-Conj. go-past 3rd

'By the time he went out, he was late.'

22. kamto hOoMte hOoMte mahto zabn
 work-Det. be-Impf.Parti. be-Impf.Parti. month-Det. go-Fut. 3rd
 The month will be over by the time, the work is done'.

23. tar puzat bOhoMte bOhoMte pmlm hOi gOl
 he-Gen. worship-bc. sit-Impf.Parti. sit-Impf.Parti late be-Conj. go-past 3rd
 'By the time he sat for worship, he was late.'

It is interesting to note in this connection that the reduplicated nonfinite verbs discussed in the above two sections dealing with two semantic features, are morphologically the same. But they are found to express two different meanings. This may be due to the particular type of sentences in which they are used. This is also dependent on the meaning of the main verb of the sentence concerned. Thus it can be said that it is the context which modifies the meaning of these reduplicated nonfinite verb forms.

iii. Continuation or Repetition and Eventuality of action

Asamiya reduplicated perfective conjunctive verb forms ending in '-i' are employed to convey the sense of continuation or repetition of an action which is often followed by a resultant effect. Some examples are presented below:

24. xi kam kOri kOri klanm hOise.
 he work do-Conj. do-Conj. tired be-Pres.Pf.3rd
 'He has become tired of working (repeatedly)'.

25. lOrato kheli kheli xmmY nmstn kOrise
 boy-Det. play-Conj. play-Conj. time waste do-Pres.Cont 3rd
 The boy is wasting time by playing (continuously)'.

26. xi dOuri dOurizaoMte pOri gOl
 he run-Conj. run-Conj. to go fall-Conj. go-past 3rd
 'He fell, as (he) was going by running'

iv. Imminence

Asamiya reduplicated verb forms in case of first person simple present are employed to convey the meaning '...about to happen' or '...is to take place'.

It is also to be noted here that, apart from conveying the semantic feature 'imminence', these reduplicated verb forms (i.e., first person simple present) also imply a sense of 'anthropomorphism'. Examples are given in the following:

27. b̥rOxun d̥ioM d̥ioM kOrise.
rain give-Pres. 1st give-Pres. 1st do-Pres.Cont 3rd.
'Rain is about to come'.

28. rOdt̥o k̥haoM k̥haoM kOi olaise.
sun-Det. eat-Pres. 1st eat-Pres. 1st for comeout-Pres.Pf 3rd
'The sun has come out (as if to eat) to burn (everything).'

29. d̥humuha ahoM ahoM kOrise.
Storm come-Pres 1st do-Pres. Cont. 3rd
'The storm is about to come.'

The reduplicated verb roots with the derivative suffixes '-u' and '-o' are also found to express 'Imminence' which is evident from the following examples:

30. t̥ar mOnt̥o uru uru h̥Oise.
he-Gen. mind-Det. about to fly be-Pres.Pf. 3rd
'His mind has become indifferent (as if about to fly).'

31. t̥ar t̥et̥ia mOromOro m̥b̥m̥st̥ha
he-Gen then about to die condition
'At that time he was almost dying.'

v. Desideration

The finite verb forms of Asamiya in the first person simple present and in all the three persons of the future tense are reduplicated to convey some desire or wish to perform some work or action. Following examples will be found to convey this semantic feature:

32. k̥r̥oM k̥r̥oM buli bhabio m̥ni
do-Pres. 1st do-Pres. 1st say-Conj. think-Conj.Emph. I
kam̥to k̥rib̥m̥ p̥m̥ ra nai.
work-Det. to do can Neg.
'Though I wished to do, I could not do the work.'

33. tumi mok kiba kɔba kɔba zen lagise.
 you I-Acc. something say-Fut.2nd say-Fut.2nd as if
 seem~Pres.Cont.3rd
 '(I) feel as though you would (desire to) tell me something.'

34. xi talOizabɔ zabɔ buli bhabisil.
 he there go-Fut.3rd go-Fut.3rd say-Conj. think-Past Pf. 3rd
 'He thought of going (desired to go) there.'

1.5. A picture of availability of reduplicated verbs

A close study of the reduplicated Asamiya verbs makes it clear that though there is the possibility of reduplicating almost all the verbs, some verb roots are found which do not have all the possible reduplicated forms. The possible reason of such non availability may be the less frequent use of those verb roots in the language as a whole. Now the verb root [za 'to go' with all its possible reduplicated forms (following the specifications mentioned in the previous sections) are presented below:

1. zaoMte zaoMte: Imperfective participle. (Simultaneity of action/Uncertainty or Indefiniteness).
2. goi goi : Perfective conjunctive (Continuation or Repetition and Eventuality of action).
3. zaoM zaoM: First person Simple present (Desideration/Imminence).
4. zam zam : First person Future (Desideration).
5. zaba zaba : Second person (ordinary) Future (Desideration).
6. zabi zabi : Second person (non-honf) Future (Desideration).
7. zabɔ zabɔ : Second person (honf) and Third person Future (Desideration).
8. goisoM goisoM: First person present Perfect (Emphasis).
9. goise goise : Third person present perfect (Emphasis).

BIBLIOGRAPHY

Abbi, A. 1992. "Reduplication in South Asian Languages". *An Areal, Typological and Historical Study*. New Delhi: Allied Publishers.

Barua, H. C. 1910. *Asamiyā~ Vyaikaran* (Assamese Grammar). [in Assamese Sibsagar: Tulshiram Baruva.

Barua, H. C. 1900. *Hem-kosa - An etymological dictionary of the Assamese language*. Capt. P R Gurdon and Hemchandra Gosain. (ed.). Calcutta: Published under the Authority of the Assam administration.

Bharali, D. 1959. *A Study of Phonology and Vocabulary of the Assamese Language*. Jorhat. The Author.

Chafe, W. L. 1973. *Meaning and Structure of Language*. Chicago: The University of Chicago.

Deka, P. 1993 - 94. *Jyoti dwibhasik abhidhan* (Illustrated Anglo Assamese Dictionary cum Assamese Thesaurus). Zoo-Narengi, Tenali, Guwahati: The Bharat Offset.

Dutta Baruah, P. N. 1978. *Comparative Analysis of the Morphological Aspects of Assamese and Oriya*. Ph. D. Dissertation. Gauhati University.

Goswami, G. C. 1964. *An Introduction to Assamese phonology*. Poona: Deccan College.

Goswami, G. C. 1973. *Asamiyā Golok Vyākaran* .[in Assamese] Gauhati: Subodh Bagh. 3rd edn 1974.

Goswami, G. C. 1982. *Structure of Assamese*. Guwahati: Guwahati University.

Goswami, G. C. 1987. *Asamiya Vyakaranar Maulik Vicar* (Fundamentals of Assamese Grammar) [in Assamese] Guwahati Bina Library. 3rd edn.1993.

Goswami, S. N. 1962. "The sound attributes in Assamese". *Bulletin of the Philological Society of Calcutta*. vol 3.1, 17 - 27. Dept. of Comparative Philology. University of Calcutta.

Goswami, S. N. 1963. "The plural affixes in Assamese". *Bulletin of the Philological Society of Calcutta*. vol. 4.1, 48 - 56. Dept. of Comparative Philology. University of Calcutta.

Goswami, S. N. 1966. "The compound verbs in Assamese". *Bulletin of the Philological Society of Calcutta*. vol. 7, 21 - 23. Dept. of Comparative Philology. University of Calcutta.

Goswami, U. 1978. *An introduction to Assamese*. (Guwahati), Panbazar: Main Manik Prakash.

Goswami, U. 1981. *Asamiyā bhāshār Vyākaran*. [In Assamese] Guwahati, Panbazar: Mani Manik Prakash. 4th edn. 1993.

Goswami, U. 1975. *A Grammatical Sketch of Assamese*. Census of India 1971. Series 1. *Grammatical Sketches of Indian languages*

with *Comparative Vocabulary and Texts*, 31-52. Registrar General and Census Commissioner of India.

Kakati, B. K. 1941. *Assamese - Its formation and Development*. (A Scientific treatise on the history and philology of Assamese language). Guwahati: LSB Publication. 5th edn.1995.

Leech, G. N. 1983. *Semantics*. Harmondsworth: Penguin (First published in 1974).

Lyons, J. 1963. *Structural Semantics*. Oxford: Basil Blackwell.

INDEX OF TOLKAPPIYAM (TOLKĀPPIYAC COLLADAIVU)

P.V. Nagarajan & T. Vishnukumaran, Demy 1/8, pp. 372, Rs. 300/- (US\$ 60/-)

This work is a continuation of the variorum edition of the same published in 1996. For each word, the occurrence, meaning and grammatical details are given. This work will be of much use to researchers on Tolkappiyam and grammatical treatises in Tamil.

DRAVIDIAN ENCYCLOPAEDIA Vol. III

Ed. V.I. Subramoniam, HB, Demy ¼, pp.924, Rs. 1340/- (US\$ 200/-)

A compact compilation, this volume as a reference work covers all respects of Dravidian languages. The tribal languages of the Dravidian family are described with their grammatical features. The five major languages- Tamil, Telugu, Kannada, Malayalam and Tulu too have their descriptive grammars. Articles on literature are elaborate. Short pen pictures of important authors and their contributions are also available. A comprehensive index of 47 pages provides easy access to information.

The first volume of the Dravidian Encyclopaedia, H.B., Demi ¼, pp. 726 is priced at Rs.500/- (US\$ 100/-), second volume, H.B., Demi ¼, pp. 916 is priced at Rs.900/- (US\$ 180/-) and the complete set costs Rs. 2700/- (US\$ 480).

Review

THE DECLINE & FALL OF THE INDUS CIVILIZATION

Lahiri, Nayanjot. 2000. Permanent Black, Delhi. Pp 410 + vi, Price Rs. 650/-

This book contains little that is new, but is a very useful compendium of authoritative reports published on various aspects of the Indus Civilization (hereinafter “Civilization”). It contains a number of illustrations, maps and drawings.

In his Introduction, the editor gives the quietus to theories of an “Aryan” invasion as the agency that destroyed the Civilization. But the identification of alternative causes for this denouement is not definitive. Many factors, geological configurations, the courses of river systems, ecological consequences of unwise land use, etc., are candidates.

In the first section, Ramaprasad Chanda’s two papers, presenting his change of view from the Aryan hypothesis to alternatives, sandwich Gordon Childe’s study of Indo-European origins. Tracing the connection with Sumer and Elam, Childe concludes that authors of the Civilization were not Aryan, but one of the pre-Aryan races of Mesopotamia, “resembling in some respects the anthropological type of the Dravidian (-speakers) of India... Whichever way the races drifted, an ethnic element common to India and Mesopotamia seems clear...” (p. 44). He could not conclude whether the Aryans were the destroyers of this Civilization. Chanda’s revised views:

“The hypothesis that seems to fit in best with the evidence... On the eve of the Aryan immigration, the Indus Valley was in possession of a civilized and warlike people. The Aryans, mainly represented by the Rishi clans, came to seek their fortune in small numbers more or less as missionaries of the cults of Indra, Varuna, Agni and other gods of nature, and settled in peace under the protection of the native rulers who appreciated their great merit as sorcerers...” (p 49).

Kane PV considers Wheeler’s theory of a carnage that ended the Civilisation as inadequate and scrappy. Pusalker AD examines the relationship between the Harappan culture and the R̥g Veda. The description of the pura-s that Indra is credited with having destroyed shows that they were ‘contemptible’ structures by no way comparable with what archaeology has shown the Indus cities to have been. Dales

GF dismisses the theory of the final massacres at the Indus cities as “mythical”

Lal BB (1997) considered that a fascinating line of enquiry has been provided by linguistics. He too discards Wheeler’s hypothesis of Indra being guilty of massacring the city-dwellers- “certainly no invaders can be invoked for an assumed sudden end” (p. 86). He does not agree that the language of the civilization could have been Proto-Dravidian, because it does not satisfy two conditions, viz., “one, that the value once assigned to any given sign not altered according to exigencies, and two, that the language arrived at conforms to the principles of the language concerned” (p. 87). He interprets the RgVeda to show that the early Aryans were not rustics but had a high degree of civilization. He makes much of the knowledge of horse (*Equus caballus*, the ‘true’ and not the wild species) evidence in the Harappan sites, and would prefer an earlier dating of the RgVeda to cira 3500 BC. He suggests that the Indus Valley Civilization was indeed “Vedic”!

Kennedy draws upon Physical Anthropology to assert that the early data, collected by Risley and others to show that the “Aryans” were brachycephalic in contrast to the dolichocephalic “Dravidians”, is quite inadequate. Guha’s refinement of the doctrine and postulate of a ‘double wave’ of Aryan immigration is also unsupported by adequate data.

“Our multivariate approach does not define the biological identity of an ancient Aryan population, but it does not indicate that the Indus Valley and Gandhara peoples shared a number of craniometric, odontometric and discrete traits that point to a high degree of biological affinity... In short, there is no evidence of demographic disruptions in the north western sector of the subcontinent during and immediately after the decline of the Harappan culture” (pp. 99-100).

He also discounts the arguments based on the identification of the PGW ceramics with the “Aryans”. Several assumptions about the “Aryans”, e.g., light skin pigmentation, “find their origins in the improper marriage of excerpts from Vedic texts with 19th century Germanic nationalistic writings” (p. 113): “How could one recognize an Aryan, living or dead, when the biological criteria for Aryanness are nonexistent?” (p. 114). Leach pours scorn on the “Imperialistic Myth” fostered by Max Mullerian perceptions on the racial composition of the subcontinent, and the origin ‘myths’ that they entailed. “The Aryan invasions never happened at all” (p. 137).

Part II represents more recent findings and writings, not so much on historical 'theories' but geo-physical facts, and environmental consequences. In an article well-documented with photos and illustrations, Mackay traces the Indus system to show that periodical floods appear to have caused the evacuation of Mohenjo-daro and Harappa (p. 141). A great flood at the end of Phase IV of the Civilization completed the destruction of the township and dock at Lothal, the last brave effort to restore urban features. Sahni MR deduces from the manner of occurrence of the alluvium that the formations were not aggradational terraces, but due to earthquakes causing elevation at more than one point, which dammed the Indus. The river burst through these dams and caused flood pouring down the river, inundating the Civilization's urban sites. He shows that this tectonic phenomenon is continuing, the last catastrophic occurrence having been in 1826.

Lambrick discounts drastic geomorphologic occurrences in the Lower Indus plain, directly contradicting Sahni's views. "The entire alluvial plain of Sind... may be regarded as a virtually infinite number of 'skins' of Indus silt, each overlying its predecessor" (p. 173). The gradual building up of the flood plain resulted in the capture of the Indus by the Sukkur gorge. The Harappan coastline of 3000 BC would approximate to the modern 30-ft (+ MSL) contour. The successive settlement layers revealed by the excavations indicate a building up of silts, probably also caused by wind-carried drifts.

Rafique Mughal postulated changes in the courses of the Indus and the Hakra in Cholistan. By 4th millennium BC, a four-tiered hierarchy of settlements had come into existence in the Central Indus Valley. The Mature Harappan was marked by increase in the area and percentage of villages to towns. The number of tiers reduced to three by 2nd millennium, the bigger cities tending to disappear. Hydrographic factors profoundly influenced the life history of the Civilization, and were the major causes of the decline in Cholistan (p. 199).

Raikes concluded that Mohenjo-dara and other sites were gradually engulfed in mud. In Kalibangan, the end came some time in the 18th century BC, without any catastrophic climate change. He finds evidence for the alternating capture of the Jamuna by the Indus and the Ganges systems respectively. The cutting off of the Ghaggar tributary would have been one more nail in the coffin (p. 212). Yash Pal *et al* reported the use of remote sensing techniques for tracing the "Lost" Saraswathi. The Paleo-environmental changes were caused by climatic,

tectonic and anthropogenic factors. The key to the consequences was the vagrancy of the Satluj. Enzel *et al* traced the sediments of the Lunkaranasar 'dry' lake during Holocene to which changes in south-western monsoon regimes are traced. The lake dried around 4800 "14Carbon years" Before Present. Misra VN enlisted Climate as a factor in the rise and fall of the Civilization, on palynological (pollen grain studies) evidence. Decrease in rainfall and river course changes resulted in aridity in the city sites.

Fairservis Jr., estimated the population of the sites using admittedly approximate measures. Then, using further approximations of food requirements for the population, he re-constructs the economic history of the Civilization.

"The evidence points to a precarious economic situation as a significant reason for the downfall of the third of the world's earliest civilizations. Even... Harappa was abandoned after the Mature phase... The administration of the Harappan cities was ... ineffective in handling the problems. It may have been preferable to move away rather than to remain, which indicates that the rigid control by a theocratic or secular government... was in fact largely non-existent" (p. 262).

Part III pursues the idea that there is a stratigraphically demonstrable 'Late' phase for the Civilisation as a whole, rather than for specific sites. Chakrabarti DK found evidence of the weakening of the political fabric but not uniformly, the exception being the Gujarat sites. He traces inter-phases with earlier pre-agricultural populations, and concludes that the Harappans 'were swallowed up ... by the much less advanced pre-agricultural groups of inner India' (p. 280). Pigott exhibits a 'throw back' to the myths of "Conquerors from the West", and sees continuity between some characteristics of the Civilization with the features of the Mauryan Empire.

Rao SR traces the penetration of the Harappan culture into the Kathiawar peninsula and its survival to the end of 2nd millennium BC, as revealed in the excavation at Rangpur. He speculates that when Lothal was washed away in a flood *circa* 2000 BC, some inhabitants left Lothal and formed several small settlements as at Rangpur. There was, further, a mass movement along the coastline into Central India and the Deccan, in the latter half of the 2nd millennium BC. "The new links between the Late and post-Harappan cultures of Gujarat and the Central Indian chalcolithic cultures explain some of the Harappan traditions surviving in later chalcolithic cultures" (p. 296).

Ghosh A devotes a few pages to a speculation of the possibility of Harappan urbanism surviving or resuscitating in the upper Ganga basin. Bisht RS describes the recent excavations at Dholavira in Gujarat. It was one of the largest five cities excavated. "For the first time, a full configuration, together with hitherto unknown elements of Harappan signs was discovered; "... miscellaneous antecedent cultures flourishing in the Indus Valley, Baluchistan and Kachchh (*sic!*) were constantly evolving in all aspects and developing in their repertoire many an element which was adopted, refined..., elaborated and widely distributed by succeeding Harappans" (p. 313). Dholavira presents the decline and fall of the Civilization more dramatically than elsewhere:

"In the post-urban or post-Harappan period, the cultural scenario undergoes a sea change. The fairly Unitarian character of the Harappan culture is not evident. There are a number of regional cultures in which the urban components rapidly diminish and disappear. Barring the Kachchh and Saurashtra area, fortification, formal planning, use of seal and bricks, ... went out of vogue. The Jhukar seals are ... devoid of writing. The classical Harappan pottery forms ... disappear along with weights, triangular terracotta cakes and many other sophisticated items..." (p. 314).

Bhan KB pursues the discovery of Late Harappan settlements in Sindh, Haryana, Uttar Pradesh, Gujarat and Maharashtra on the basis of geology, land-forms, climate, vegetation and land-use. He found that pastoralism obviously played a significant role in the colonization of the bulk of Gujarat and urged more studies on the ethnography of pastoralism in that State.

Jarrige discovers continuity behind the changes in the North Kachi Plain of Baluchistan in Pakistan in the 2nd millennium BC. The long paper is a closely argued, comprehensive view of several aspects. The significant innovation during this period was the introduction of the horse. Chakrabarti DK is concerned about the history of crops after the domestication of plants *circa* 7000 BC. Wheat occurs in some of the Civilization sites by 3rd millennium BC. Barley was domesticated early in Mehrgarh by 2nd millennium BC. He finds the data inadequate to lead to a coherent agricultural history. Fujiwar *et al* pursue the enquiry with regard to rice and ragi (*Eleusine coracana*). Its cultivation is attested in Saurashtra by the 3rd millennium BC. Cultivation of rice as a summer crop is evidenced in Late Harappan levels. (Incidentally, the earliest rice in India was found in UP sites, 6375 to 5010 BC). Cultivation of rice in the Pakistani sites of the

Civilization was well established by 2nd millennium BC. “If further investigations ... confirm the presence of rice, then the old paradigm of single cropping pattern of the Harappans would be revised” (p. 379). In the last article, Lahiri traces the trade routes of the Civilization with contemporary sites in Sind and Afghanistan.

The book is somewhat tough reading because of the shift of technical emphasis from subject to subject. It shows how multi-dimensioned and multi-disciplinary the study of this Civilization – we can no longer assert with confidence that it is even “lost”! – has become. Virtually free of editorial mistakes, it is nicely produced, and compulsory reading for those interested in this area. A major lacuna that remains is that Linguistic aspects, though mentioned several times, do not get the treatment in-depth comparable to the other aspects. Much light has been thrown, but the enigma remains. Digging, more digging and more discoveries are required.

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**TEXTUAL VARIATION OF TOLKAPPIYAM
(TOLKĀPPIYA MŪLAM PADA VĒRPĀDUGAL:
AINŌKKAYVU)**

**Eds. K.M. Venkataramaiah, S.V. Subramaniam & P.V. Nagarajan,
HB, Double Crown, pp. 460, Rs. 400/- (US\$ 80/-)**

This is a massive and accurate work which lists the variations in readings found in published works beginning from the 1847 palm-leaf manuscripts, especially from U.V. Saminatha Iyer's Manuscript Library, Chennai, from different interpretations found in the annotators beginning from *Ilampuranar* of 12th century A.D., *Teyvacilayār*, *Cēnavaraiyar*, *Pērasiriyar*, *Naccinārkinīyar* and modern commentators like Balasundaram and others. The reasons for preferring one or the other reading are listed in the footnotes which are detailed. A total number of Sutra which vary from one ancient annotator to another is also listed. An appendix containing the index of the first words of the sutras is also given at the end.

Review

1000 DURALJAN ETYMA

(An Extended Study in the Lexical Similarities, in the Major Agglutinative Languages, Hannu Panu Aukusti Hakola, 2000, Kuopio University Printing Office, Kuopio, Finland PP. 303)

The exploration to establish distant genetic relationship of macro-families and ultimately to trace the evolution of language by reconstructing the proto-language of mankind based on the monogenesis theory of language by a few linguistic enthusiasts has raised considerable controversies among linguists and non-linguists as well. The proto-language reconstruction of individual language families both large and small numbering about more than a dozen, however have been well accepted by historical and comparative linguists beginning with Indo-European in the 19th century to Indo-Aryan, Dravidian (Dr.), Uralic, Altaic etc. in the recent past. Besides, dual comparison of proto-language families or phyla such as Dr. with Uralic, Altaic, Elamite, Japanese, Korean, Mongolian have also been attempted by some scholars where they have not yet been established beyond reasonable doubt but only with partial acceptability whereas multiple comparison of more than three language families to the level of macro-phyla or super families are usually flayed by scholars. This is mainly because of the deep temporal and wide spatial distance involved in such studies where lacunae will be greater in all levels in linguistic and extra linguistic features. Besides, the well established historical comparative method and linguistic reconstruction alone will not suffice in such cases and corroborative evidences from other interdisciplinary subjects such as history, archaeology, anthropology, population genetics etc. have to be pondered and this is the new trend that can be seen in long range comparisons of protolanguages to deeper time-depth within the spatio-temporal dimensions especially by a group of Russian and East European scholars which is noteworthy. Thus a resurgence in this quest for enquiry has emerged recently.

Hakola's 1000 Duraljan Etyma (DE) is a supplement to establish firmly, the author's hypothesis introduced a decade ago that the five major agglutinative language families - Dravidian, Uralic, Altaic, Japanese-Korean and Andean are mutually related and form a super family acronimically named as Duraljan supported by his monograph

Duraljan Vocabulary (DV) published in 1997 with 468 etymological groups with lists of phonetic correspondences and tentatively reconstructed forms as claimed by him.

The etymological groups in DE serially numbered are listed with the so called Proto Duraljan (PD) forms as the head word with glosses followed by cognates from representatives of the five language families which forms the major chunk of the monograph. The etyma include words relating to basic vocabulary items, animals, hunting, fishing, agriculture, pottery, vehicles, textiles etc. which is a sound methodological approach (15-223). This is followed by discussion and conclusion (224-267). An additional 33 etyma, index of PD reconstructed forms and English meanings are also given (267-303). The author's intention is to establish Duraljan as a super family that dates about 7000 to 12000 years ago on the basis of PD lexical parallels besides paleolinguistic evidences corroborating with such disciplines viz. archaeology, genetics, history and other humanities which also is methodologically sound. But his strategy of reconstruction to a great extent seems unsound. For instance the methodology followed by him can be gleaned from his own statements which are self explanatory. 'The first step towards phonetic laws was taken in DV limited to consonants and vowels. In PD phonemes were considered as (1) quite probable: p t k m n w y a i u; (ii) nearly probable: l r s X o e; (iii) probable: c ř ñ ʈ. The phonetic laws governing PD, Tamil, Mongol, Japanese and Quechua were presented in a table (DV. 112, DE. 237). PD reconstructions were done by these phonemes along with the additional phonemes ɖ, ä, ü used by other scholars and the reconstruction of the words was made quite intuitively' (DE. 232). The foregoing statement reveals a lack of morale of traditional comparative reconstruction. Further, he says that with the corpus of 1000 DE all the above mentioned phonemes are supposed to exist quite probably in PD.

The second, third and fourth steps towards phonetic laws deal with the analysis of intervocalic and geminate consonants (234, 236), consonant clusters (238) and reconstruction of vowels of the second syllable (239) respectively. The author says that with these steps he has reconstructed the PD words, however, there are abundant exceptions which do not fit into the phonetic laws and that the phonetic laws presented do not stand on some divine revelation. On that score he explicitly admits his own conviction on the assumptions, principles

and procedures of reconstruction and closely shuts the doors for further comments and hence one has to refrain from that but for a few points.

A cursory glance at the so called phonetic laws with reference to PD and a single family Dr. if formulated as rules would show the following types.

<u>Consonants</u>		<u>Vowels</u>	
<u>PD</u>	<u>PDr. (Ta)</u>	<u>PD</u>	<u>PDr. (Ta)</u>
$\begin{bmatrix} *k- \\ *x- \end{bmatrix} >$	*k-/ *c-	$\begin{bmatrix} *i- \\ *\bar{i}- \end{bmatrix} >$	*i-/ *ī-
$\begin{bmatrix} *c- \\ *s- \end{bmatrix} >$	*c-	*e >	e/ē/a/ā
$\begin{bmatrix} *t- \\ *\tilde{t}- \end{bmatrix} >$	*t-	*a/*ā >	a/ ā
*p- >	*p-/ *v-	*ä >	a/ā
*w- >	*v-/ *p-	*o >	o/ō/u/a
*n- >	*n-	*u/ū >	u/ū
*ñ- >	*n-/ ñ	*ü >	u/a
*r- >	*r-/ <u>ṛ</u> -		

All these would give the impression that they are either/or changes the exact motivations of which are not expedient to accede to the technique of comparative reconstruction and manifestation of sound changes. How can these be called phonetic laws?

The traditional historical comparative reconstructions are based on solid assumptions, principles and methods of which the most important is the notion of sound change and its manifestations. Phonetic laws or better rules are statements in genetic linguistics which tries to explain series of regular, predictable correspondences among the related languages of a family in the case of comparative reconstruction. According to the Neogrammarian thesis phonetic laws are rigorous statements of sound changes which show regularity and do not admit exceptions. Regarding the seeming exceptions there will be an earlier exceptionlessness stage which hitherto has not been discovered. On the other hand beneath the seeming exceptions lies an

inner regularity which has to be discovered and ultimately the exception proves the rule.

Though the representative language for Dr. family is shown as Tamil he has drawn cognates from about 16 languages of the Dr. family as given in DEDR to suit the different etymological groups in PD and not the PDr. reconstructed forms. Therefore, on the whole the data are broadly phonetic and all the sounds involved in a specific family form only reflexes of the respective prto phonemes of the macro family. Thus the postulated phonetic laws must account for all the reflexes of sounds and nothing can be left unaccounted for. The phonetic laws which he says is in no way a law or rule but largely the one to one or near equivalent correspondences of sound in various positions, their frequencies and percentage with reference to the total number of collected cognates and thus it is more a typological accounting rather than that of the rule bound changes with specific conditioning factors. Thus what is seen in DE is not reconstruction which, on the contrary, can better be called as prtophonic retranscription mainly of the Finnish head word by using the overall phonemic inventory taken from the works of other scholars as well as his own (243) which are supposed to be available at PD stage. This is just like rendering phonemic transcription of any word in a given speech form once the phonemic inventory is identified from a few phonetically transcribed words among the carefully chosen set of vocabulary items and in synchronic phonemic analysis it will perfectly be in conformity with the phonological structure of the language in question. But in historical comparative reconstruction it need not be and very often it cannot represent the protolanguage forms because of sound changes like split, merger, replacement, syncope, apocope, metathesis etc. that make phonological restructurings in the individual languages, subgroups and families of languages which have to be well explained by formulating phonetic rules and not by counting of frequency as it is done here. By avoiding all the said notions of sound change usually encountered in traditional comparative reconstruction he has formulated the phonetic laws that govern the super family. The reconstruction of a PD form in the etymological groups representing random languages of different families showing cognates in 2 or 3 languages etc. are being attempted in this way. Without knowing the cognates in the rest of the majority languages how a proto-language reconstruction can be made and justified? Hypothetical reconstructed forms can be proposed for certain rare or defective etymological

groups which will have to be confirmed later by attestation from elsewhere within or among the proto-languages.

Among the several discrepancies on etymological groupings and phonological reconstruction of PD found in DE a few are cited below:

1. DE.758. PD *si 'you' F. sinä. E. sinä, M.ci. J.anata, Ta.nī. Note that the Ta. and Japanese forms are not cognates to be included in this group. The PDr. Form is *nīn.
2. DE.445. PD. *me 'we' Te. mēmu, nēmu, ēmu, Kui, māmu, āmu PDr. *nām and the presence of initial m- in Te. Kui is due to metathesis and the absence of initial consonant- due to n-> ø. The seeming similarity of Dr. root with that of PD is due to metathesis and vowel alternation.
3. DE. 452. PD. *mi-'what' Te. ēmi is from PDr. *yā-> ē- 'what' DEDR (5151). The PDr. root has no resemblance to that of PD and it cannot be derived from the latter.
4. DE.966. PD *wis- 'five' Toda. Ūz. This is a misfit in this etymon. The PDr. form is *caym-tu 'five'.
5. DE.739. PD *sec3- 'seven' Kurux. sattē, Malto. sāt, noted as loan from Sanskrit. No cognate given for other Dr. The PDr. form is *ēl-and it is a wrong grouping.
6. DE.986. PD. *wōs3 'year'. This is a wrong etymological grouping. Ta. Yāntu, āntu 'year. DEDR (5153). Ka.vantu, ontu, Te. vantu 'a turn' Ta.Ma.vata 'northern' DEDr (5218). These are clubbed together under the same etymological group with F. vousi 'year', E, tănāvu, H.al 'year' and the PD form reconstructed as *wōs3. The PDr. forms for the respective groups would be *yāntu 'year' and *vata 'north'
7. DE.493.PD *nel/nāl- 'four'. This reconstructed form conforms to the cognates included from F.nelijä, E.neli, Komi.nol, H.negy, M.dörben. The other forms Q. tawa, J.yo are misfit in this set. They are to be traced from different roots. The author says that in numerals only the above group contains cognates from all five language families and the differences in sound in this group are not greater than those in corresponding I.E. group (DE.229). This is no justification of the inclusion of the wrong items and their reconstruction. The Mongolian d- can be considered as a reflex of PD *n- just as PDr. *n- shows a correspondence d, t in Brahui.
8. The author says that 'there are numerous indefinite words of multitude and quantity given reason to suppose that the numerals have been rather undeveloped in PD' (p. 232). The items he

cited as Ta. kaya, Te. pen. gaja 'large' (DEDR.1093), Ta. Maṇtai 'flock' Te. Gon. Kon. Maṇḍa 'herd', Te. Meṇḍu 'plenty' (DEDR. 4700,5060), Ta. pala 'many' (DEDR.3987), Ta. tokai 'flock', Ma. tuka 'sum' (DEDR 3476) and their corresponding forms of other language families have definite meanings and grammatical categories which do not subscribe to the notion that in PD numerals were underdeveloped.

Regarding the linguistic evidence pertaining to the disintegration of Duraljan super-family Hakola in DV (p. 120) says that at this phase of study no definite answers can be given to the timing of separation of the languages, that of their pedigree and original homeland except some observations. He further says that according to his glottochronological calculations (1989) separation of Finnish and Tamil and that of Finnish and Quechua would have occurred some 6000 to 7000 years ago and separation of Finnish and Mongolian and that of Finnish and Japanese some 9000 to 10000 years ago. Does he mean to say that a language called Tamil existed about 6000 years ago or even the Dr. family? Glottochronological inferences are also highly controversial. No new glottochronological calculation has been done on the basis of the word list presented in DV because many cognates are lacking from the other languages than Finnish. In continuation of this coming to DE (249) the author says that in DV he had presented a tentative pedigree of Duraljan super family-Japanese-Korean and Altaic have separated from the original trunk first and a third branch has later divided into the Andean family viz. Uralic, Dravidian and Quechua. The lexical evidence in DE (227) and the similarity in phonology (229-234) support his earlier concept. However, except the glottochronological statements neither the lexical evidence in DE nor the similarity in phonology stated by him give any direct indication of the disintegration of the macro family. For instance, what are the distinctive or exclusive phonological isoglosses of the three groups that separate from PD into Japanese-Korean, Altaic and Andean families which further split into Quechua, Dravidian and Uralic? The notion of sub-grouping and distant genetic relationship as well as that of disintegration is too sketchy that it is untenable especially with regard to phonological reconstruction. For instance, the reconstructed phonological system of the macro-family should explain the basis by which the macro family has disintegrated into the micro-families as well as the changes in the proto languages of the individual family. As regards the non linguistic aspects he had made an extensive survey and

profusely quoted the works of scholars in other fields such as population genetics, history, archaeology etc. without obtaining the results of a satisfactory linguistic analysis and synthesis, any exercise of comparison, contrast and correlation with reference to the findings of other disciplines will only be futile. The linguistic evidence must be corroborated with non-linguistic evidences and vice versa.

9. Regarding the number and percentage of cognates available in each etymological group it must be noted that out of 1000 etyma only 153 show cognates from all the 5 language families (15.3%), 64 from 4 (26.4%), 314 from 3 (31.4%), 269 from 2 language families (26.4%). Less the number of cognates in an etymological group shows that lesser would be the validity of reconstruction of the PD forms because an entity representing cognates, from Ural and Altaic can only be called as Proto-Ural-Altaic and not PD. Same is the case with etyma comprising 3 and 4 cognates. The authors's conclusion of PD splitting to five language families based on the lexical evidence and the similarity in phonology as claimed by him in no way justifies the disintegration and it cannot be construed as essentially causing the language fission.

In short, the lack of scientific rigour in grouping of etyma and reconstruction, formulation of precise phonetic rules, over enthusiasm in the establishment of a super family are some of the shortcomings of this work whereas considerable amount of time and energy has been spent for the same. Hakola, a Finnish native speaker is neuropsychiatrist by education and forensic psychiatrist by profession who by sheer interest did this work outside his daily routine and deserves appreciation irrespective of whatever impact it may create on such distant genetic comparison of language phylum. The author genuinely desires to have much review and criticism of his earlier DV as well as DE and one hopes that he can bear any criticism as he himself is well aware of the multitude of problems confronted in such a paleolinguistic study - the data, time-depth, spatial distance, methodology and validity of reconstruction, interpretation and corroboration of evidences from interrelated disciplines and so on. He hopes that the DE would make some impact on linguists to unravel the protolanguages until they reach the common language of mankind. It is in such circumstances that one has to remind the edict promulgated by the Linguistic Society of Paris in 1886 banning the discussion on the origin of language. However after a long spell of silence a renewed

vigour has sprout in this direction from some quarters. Until it is proved beyond doubt the Duraljan hypothesis will remain as an interesting topic of fascinating speculation. The author's prudent remark on his own study is noteworthy, "that in the field of medicine the false and misleading results may be mortal but in linguistics only harmful and disturbing. In linguistics it can easily be corrected (267). This is exactly what the linguist feels; it is also his only consolation!

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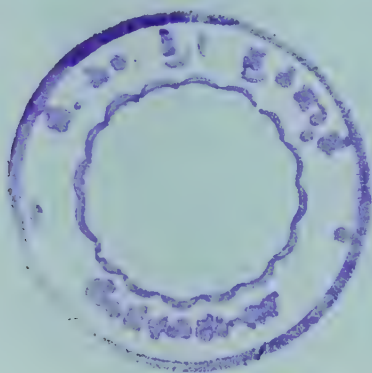
ENCYCLOPAEDIA OF DRAVIDIAN TRIBES (3 Volumes)

Ed. T. Madhava Menon, HB, Demy ¼, Set, Rs. 2780/- (US\$ 300)

Volume I: A thematic introduction arranged in a series of articles on physical anthropology, history, geography & environment, material culture, social organization, religion, life cycle, rituals etc.

Volume II: Contains ethnographical reports on the tribal communities in Kerala, Karnataka, Tamil Nadu and some tribal communities of Andhra Pradesh. Articles on the languages spoken by some of these communities have also been featured.

Volume III: Contains articles on Dravidian tribes living in the cis-Vindhyan area and north of it. The major tribes described are the Brahui, Gonds, Abujh Maria, Bison Horn Maria, Muria, Maria, Kondh and Oraon.



Review

LANGUAGE – ITS STRUCTURE AND USAGE (BHPSE RACANE BALAKE; Somashekara Gowada, Talukina Venkannaiah Memorial Series. Mysore, 2000, PP 177. Rs. 80¹.

As the author himself has stated in the preface of the book that, “it is a collection of articles written by him which are published in the University Magazines, essays presented in the prominent national seminars on the study of languages on modern lines and also articles published in souvenirs. The purpose of the present work is to acquaint the public with the structure and usage of language and matters directly associated with it”. In his foreward to the book William Madtha, appreciated the author’s wide and deep knowledge of the Kannada language and literature and the method he has adopted for the study of languages in general and Kannada in particular with regard to structure and usage. (A well-known professor of linguistics has appreciated the scientific approach of Someshekara Gowda the study of Kannada literature and linguistics). The present work is no doubt, a scholarly work. The matter contained in each chapter has not come off-hand. It is the result of incessant research, application, experimentation, and experience. He has presented a careful analysis of facts and arranged them in a logical order.

In the first chapter the author deals with the developments and trends in linguistic science in recent times. He traces the landmarks that have helped the growth and development of linguistics and its scientific approach. He observes that no language can develop on its own. The process of borrowing is indispensable. The ancient classical language such as Sanskrit, Greek, Latin and Persian have also gone through this process of “give and take”. He categorises the studies in linguistics under two broad headings: general linguistics and applied linguistics. He also deals with the philosophy of linguistics, analysis of language on the basis of its structure and usage stressing the role of syntax. The author further classifies linguistics into sociolinguistics, psycholinguistics, biolinguistics, computational linguistics, contrastive linguistics, mathematical linguistics, stylistics, typology, folkloristic linguistics and field linguistics. He has given appropriate equivalents for them in Kannada. He explains each one of them with examples.

¹ I am grateful to **Omkar N. Kaul**, Director, CIIL, for his valuable comments and suggestions in improving this review.

In the chapter on standard Kannada the author quotes instances of differences in structure and usage of Kannada varying from region to region. At the same time, he considers Kannada as a standard language because of its wider usage in administration, courts of law, and mass media. Thus standard Kannada acts as a unifying force and at the same time brings regional dialects closer.

The author deals with bilingualism which is necessary for the people living in border areas speaking different regional languages for communication. He points out differences between the spoken and written language. In written language importance is given to the accuracy of grammar and syntax; in spoken language, stress is laid on expression and communication. One is formal and the other informal in nature. The difference between diglossia, bilingualism and similar such situations are also discussed in great detail.

In the 6th chapter the author deals with script and its reformations. All spoken languages do not have scripts. For the purpose of writing and reading usually the script of the major language of the region is used by the literates. The author observes that script has to be modified, improved or refined to suit the language. In this connection socio-linguistics plays an important role, since it deals with language planning, viz, graphisation, standardization and modernization. While discussing the growth and modernization of the script of any language, the author warns against any revolutionary process. The standard of the script has to be maintained. The author points out that despite similarities between the Kannada and Telugu scripts, and between the Tamil and Malayalam scripts common scripts cannot be evolved.

The 7th Chapter is devoted to linguistics and education. He emphasizes language as the real base of education. He classifies four categories: language teaching and linguistics, subject teaching and linguistics, levels of education and linguistics, and evaluation of education and linguistics. The author further classifies language teaching into three categories: teaching mother tongue, teaching other tongues, and mother tongue and other tongues as medium of instruction. While learning mother tongue, the child first begins to speak and comprehend. Later, it learns to read and write. In the writing skill, attention has to be given to the grammar and structure of language. This aspect is graphically explained by the author. Regarding teaching of other tongues the author observes that only a national or international language has to be taught so that the scholar who has studied only his mother tongue earlier can now communicate

with other scholars of some other region whose mother tongue may be different.

The author who considers different stages of education, viz, kindergarten to college level. The author is very harsh in respect of Convents which are not giving due importance to both, the development of the mind and body of children. He mentions that Convents try to pump knowledge of language into the young heads at a very early age.

In Chapter 8 the author discusses the history of research work in Kannada. He evaluates them under the headings: research, evaluative research and diagnostic research. He opines that the majority of the research in Kannada is of the grammatical description type. He has suggested to take up such studies which are of practical use to the people and society.

In Chapter 9 the author gives an elaborate and complete picture of grammar and its significance. Grammar is of importance both in spoken and written languages. The author mentions certain misconceptions about the role of grammar. The two essential aspects of grammar, namely morphology and syntax have been dealt with in details. He further states that parsing is very essential to understand and to use correct structure in sentences to bring out correct meaning and to establish relationship among words.

The author exemplifies certain English words which have different meanings or functions by virtue of their place of occurrence in the sentence, i.e., as noun and verb, as adjective and noun. The writer points out some grammatical categories, like gender, person, number, tense, case, voice, etc. with due illustrations. Further he discusses sentence, clause and phrase, and their inter-relationship with examples.

In Chapter 10 the author narrates how language of a region is influenced by physical and geographical factors. He states that a regional language is influenced by the languages of neighboring States particularly on the people settled in border areas. Thus, Kannada is influenced by Marathi in Belgaum district, by Telugu in Raichur and Kolar districts. The author opines that Kannada spoken in the Karwar district is different from the one spoken in Mangalore; it is different in Bijapur and Dharwar districts from that of the Old Mysore District. But for the entire Karnataka, there is one standard Kannada, which is considered to be a superficial variety. The author further observes rightly that spoken language has its limitations geographically. But written language pervades the entire Kannada speaking region and

influences spoken Kannada. Standard Kannada overcomes geographical and racial differences, and establishes common media of communication and cultural bondage.

The author further traces briefly the growth and development of Kannada language and its script. There are three distinct stages, viz, Halagannada, Nadugannada and Hosagannada. These stages can be identified depending on the changes that are incorporated with respect to structural and semantic function. This has led to the compiling of Kannada lexicography. Kannada has undergone change both in its structural and usage. There is a great heritage for Kannada with respect to its culture and literature. The author drives home that there is unity in diversity in spoken and written Kannada.

The author authentically speaks about dialects, and their variations from district to district. He further observes that pronunciation and usage of Kannada differs from person to person depending on his cultural and economic background, literacy and environment. Since there is a heavy influx of Sanskrit words, Kannada spoken by illiterates and rural people will have its own grammar and pronunciation. Kannada used in writings and in mass media is the standard variety. The author cites certain instances of the usage of rural and colloquial Kannada.

In Chapter 13 the author talks about the unification of Karnataka and Kannada. Linguistic stages are formed on the basis of historical, cultural and linguistic backgrounds. There are differences in spoken Kannada between old Mysore and Northern Karnataka as well as between western and eastern, as well as northern and southern districts. Certain differences are noticed between Mysore Kannada and Dharwar Kannada both in literary works and mass-media.

The author stresses the fact that only by introducing Kannada at all administrative levels, unification of Kannada in Karnataka can be achieved. The Government has already made Kannada the official language and has taken steps for the eradication of illiteracy.

The author has covered a wide range of issues related to Kannada language and linguistics. Students, researchers and scholars of Kannada language, linguistics and general readers, will find this book quite useful.

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Review

PASANAA: STUDIES IN HONOUR OF HARIVALLABH

C. BHAYANI. P.J. Mistry and Bharati Modi. Published by Image Publication Pvt. Ltd; Ahmedabad (ed) PP.XIX.1999.

This book contains a collection of essays contributed by eminent scholars in the field. In all it comprises of 14 essays, a foreword by Bharati Modi, introduction by P.J. Mistry, chronological bibliography of Prof. Bhayani, his academic honours, and awards.

Essays in this work are representatives of varied areas of research befitting the scholar in whose honour the book has been published. The articles in this book represent the three stages of Indo-Aryan, etymology, epic and some texts.

OIA

An article entitled *Ca* 'if, when', *Ce (d)* 'and' – worlds upside down by Thomas Oberlies discusses the meaning denoted by the word *ca* and *ce(d)* in OIA.

Middle Indo-Aryan

Vit Bubenik in his article "*On the Development Of Grammatical and Lexical aspect in Middle Indo-Aryan*" discusses it in four sections.

1. Typological changes in the aspectual systems of MIA by comparing the state of affairs in early and late MIA;
2. The systems of participles, (the OIA triad of the active, medio-passive and passive participles), was replaced by several pairs of active and passive participles in early MIA;
3. During the MIA period the analytic progressive aspect made its appearance and analytic perfect available already in the OIA, period with intransitive verbs was grammaticalized.
4. *Apabhramsa* data contained certain examples of verbal compounds expressing several *aktionsart* categories

Modern Indo-Aryan

There are four essays on New Indo Aryan (NIA) and most of them are concerned with Gujarati or Western NIA. One article is devoted to Hindi.

Peter E.Hook in his article *Competing Causative in Gujarati* argues that there are two causatives – morphological and phrasal

causative - in Gujarati. He concludes that the morphological causative is normally used when the causal subject is an animate and volitional one; while the phrasal causative is the normal choice when the normal subject is inanimate and non-volitional.

Colin P. Masica discusses "*Alternative Embedding Strategy in Gujarati*" Masica argues that Gujarati possesses two types of constructions: -

A. right – branching construction utilizing the complementizer 'ke' and construction.

B. left – branching construction utilizing the complementizer *em* lit. 'thus' which are typologically opposed.

Michale Shapiro's article *Hindi "to" as discourse marker* enumerates the major uses of *to* in modern standard Hindi and concludes that with reference to its functions Hindi "*to* is specific and predictable".

L.V.Khokholava describes the evolution of stative participles as well as their usage as predicate in modern Gujarati, Rajasthani and Punjabi in his essay "*On Stative Participles in Western NIA Languages*"

His observation is "two separate oppositions the perfective-stative" on the one hand and the active passive on the other developed in Punjabi, Rajasthani and Gujarati, by 17th to 18th centuries. By that time special analytical or synthetic forms of participles started denoting the state achieved as the result of the performed action.

M.A.Mehendale in his article *Draupadi's Garments*, attempts to clear the misunderstanding regarding the garment (upper or lower) of Draupadi, Dussasana dragged. He explains the word used *vasas* in context, does not mean the lower garment with suitable illustrations and the word in this context means only *uttarā* 'upper garment'

Etymology

Three articles:- Richard J. Colins *Notes on Etymology of Lila*, Ashok R. Kelkar's *The Format of Etymological Statements* and Hukum Chand Patyal's *Etymologies of Some Kinship Terms in Punjabi* are concerned with the etymology of certain words or etymology in general.

Text

Francois Mallison discusses a text named *The Sati Gita of Muktananda* (1823) in his article, *A somewhat revolutionary view of society by a disciple of Swami Narayana: The Sati Gita of Muktanandu* (1823)

Other articles on a particular text are *Was Kunda Kundacharya*, author or compiler of the *Bārāsa Anuvekkha* by K.C. Chandra and *Abhinavabharati* text:- Professor Kangler's Emendations' by V.M. Kulkarni.

The article, *North Indian Bhakti Literature - Editions and Translations* by Winand M. Callewaert discusses the literature on bhakti cult in North India.

As the book contains the varied research areas as outlined above, it will be a useful addition in a library.

K. Meenakshi
Pune

BRAIN AND LANGUAGE (Seminar Proceedings)

P.A. Suresh, Annie Monsy, S. Maya (eds.), Rs.275/- (US\$ 75/-)

This book deals with how brain damage can disrupt the use and system of language functioning in children as well as in adults. An attempt is made to find out more on the anatomo-physiological organization of the human brain, and to identify the physiological components in the mental processing of language. A novel study on neurolinguistics.

Review

PANINIAN LINGUSTICS. P.S. Subrahmanyam, Institute for the Study of Languages and Cultures of Asia and Africa, Tokyo University of Foreign Studies. 1999. X. 336.

This book, as the author claims, is intended to be an introduction to Panini's *Aṣṭādhyāyī*... which has contributed enormously to the growth of modern linguistics.

The present book contains 10 chapters, 5 appendices and references.

Introduction in the 1st chapter discusses the importance of the study of grammar in Ancient India, grammatical study before Panini, *Munitrayam*, the commentaries and ancillaries of the *Aṣṭādhyāyī*, the *Aṣṭādhyāyī* and modern linguistics, and his principles of analysis and presentation.

The second chapter *Organization of the Aṣṭādhyāyī* makes a survey of the contents of the *Aṣṭādhyāyī* and provides us basic information about the text.

This third chapter, the *Pratyāhāra sūtras* explains the fourteen Śivasūtras preceding, the text *Aṣṭādhyāyī* Panini formulates his *pratyāhāra sūtras* out of these fourteen Śivasūtras. Though the chapter is called the *pratyāhāra sūtras* the author seems to have restricted only to the *pratyāhāra* formed out of the *Sivasūtras* only though Panini has formulated more *pratyāhāras* from his own sūtras such as *suP*, *tiṇ* etc.

The chapter four describes the indicators 'iṭ'. It includes how to identify the indicators, its status, and function and so on.

The chapter five, on technical terms presents a list of technical terms used in the Paninian system. The author has listed 252 technical terms along with their meanings and the sutras of Panini in which they are defined.

The chapter six Metarules explains 41 metarules (*paribhāsā*) used by Panini.

The chapter seven entitled complex roots and nominal stems explains the complex roots (desiderative, frequentative etc) and *kṛt*. *Taddhita* formations.

The chapter eight is devoted to the *Kāraṅgas* and cases.

The chapter nine deals with the case inflection

The chapter ten describes finite verb inflection. In this chapter the author explains the usages of tenses and moods as described by Panini.

Appendices include sūtras that are commonly cited (1) the *Ahikāra sūtras*, (2) metarules, (3) topics in the *Aṣṭādhyāyī* and (4) index of English equivalents of Sanskrit technical terms.

A considerable number of literature on Panini's *Aṣṭādhyāyī* has been published but the author says that these works presupposes some basic knowledge of the work on the part of the reader. "The present work is designed to impart such a basic knowledge to the beginner by illustrating the methodology adopted by Panini..." (VI). I should say that he has achieved his objective by explaining *Aṣṭādhyāyī* 'the grammarian's grammar' in a simple language, and I am sure that it would serve as a handbook on Panini.

K. Meenakshi
Pune

INDEX OF TOLKAPPIYAM (TOLKĀPPIYAC COLLADAIVU)

P.V. Nagarajan & T. Vishnukumaran, Demy 1/8, pp. 372, Rs. 300/- (US\$ 60/-)

This work is a continuation of the variorum edition of the same published in 1996. For each word, the occurrence, meaning and grammatical details are given. This work will be of much use to researchers on Tolkappiyam and grammatical treatises in Tamil.

Review

RECENT RESEARCH IN PANINIAN STUDIES, George Cardona, Motilal Banarasidass, Delhi 1999, PP XI 372. Price Rs. 395/-

The present work is a continuation of his work done in *Panini: A Survey of Research*, first published in the Netherlands (The Hague, Mouton & Co. 1976), subsequently published in India, Delhi: Motilal Banarasidass, 1980.

The present book is divided into two sections. 1. Bibliography and 2. Survey.

In addition the work contains notes and index.

The first section viz., bibliography covers the work done since 1975, upto the time of its publication in 1999. This gives information on books, articles, monographs etc. which a reader needs in order to know the kind of work done on Panini and the Paniniyas.

Second part makes a survey of the work done (that is listed in the bibliography) critically. The principal aim of a survey such as this is to inform the readers of the work that has been done and of trends in the field. (IV).

Cardona includes the reporting of controversies in this section, participating in the arguments put forth. As expected, he records his own views on the matter of discussion as a participant.

Notes cover pp. 279-322 and index of names etc pp. 323 – 369.

This book reflects the enormous labour put in preparation. It is a valuable guide for researchers on Panini and the Paniniyas as it contains useful information regarding the work done, up to date. This book should find a place in every library.

K. Meenakshi
Pune

Review

LANGUAGE LOYALTY AND DISPLACEMENT

L. Ramamoorthy, PILC, Pondicherry, pp. 223

Language Loyalty and Displacement among Telugu minorities in Pondicherry by L. Ramamoorthy is a detailed study of Telugu spoken in Pondicherry. Ramamoorthy has tried in this book consisting of 19 chapters to present an extensive and elaborate view of the language. It would have been better, if he had made two separate volumes, one consisting up to the 11th chapter on language analysis and the remaining as a separate volume.

Ramamoorthy, in his study, has tried to establish 7 dialects. However, they cannot be treated as dialects in the real sense, as they are only caste variations. These variations are due to the close-knit intra-caste affiliations and restricted inter-caste movements and mingling, due to psychological fear of alienation within the dominant Tamil community. In situations like this, the minority language speakers are likely to mingle more with their own caste people in the community functions, marriages, etc. as long time settlers which is contrary to the attitude of recent settlers where the more binding factor is the language and not the caste. These attributes naturally create variations in the language pertaining to the caste. However, it would have been much better, if the author posited a single standard dialect of Telugu of Pondicherry and studied the caste variations in relation to that dialect. But it is seen that there is no dominant single variety of speech to do that. In such a situation, the dominant variety of present day Telugu of mass media from the main Telugu land of Andhra Pradesh could have been taken as the focal variety and studied the caste deviations in Pondicherry. This is justifiable because a lot of features or influences of modern spoken Telugu of the main land (Andhra Pradesh) are found in these caste variations observed in the study, apparently because of mass media like radio and T.V. programmes from the main land and also free mobility of people from Telugu regions especially from Yanam which is a part of Pondicherry but consisting of and surrounded by Telugu speakers. Or, as an alternative, old Telugu (the literary variety of Telugu) should have been considered as the base language and the features of various caste dialects studied as deviations from that base variety. This should have

facilitated to measure the extent of change in each caste dialect and also between these dialects.

As the author has rightly said, the second part of the study from chapter 12 is more significant. Many observations of the author in this part are interesting and informative. But these observations with the modern standard Telugu of Andhra Pradesh as base would have been better to understand the position of Pondicherry Telugu which does not have a standard variety, as most of these deviations are either due to the influence of the dominant local language i.e. Tamil or due to the residual features of old Telugu.

Now, coming to some important observations, the author has rightly pointed out that the younger generations are less proficient in Telugu (15.2.1 p. 153 and 16.3.2.1 p. 161), and that the proficiency and the superiority complex of females is more than that of the males (16.3.1.3. p. 17). The speakers of all the 6 communities consider Telugu as superior to other languages. It would have been better if the author had given some reasons for these observations. However, we can confidently say that the younger people are not restricted to the family profession and social life of the community as in the past and are more exposed to the lifestyle of the broader society and the majority language i.e. Tamil. This also is due to over emphasis of Tamil in all walks of life in the post-independent period. Women, due to the social set-up are naturally less exposed to outside influence and are more conservative, concerning social and religious activities and hence their attitude shows superiority complex. Older people are more attached to their community, cultural habits and rituals in which caste language is a more embedded and binding factor. The author has rightly observed that the language proficiency is linked with the age group (16.3.2.1. p. 171). The older generation people who are more proficient naturally feel that their language will definitely survive and the younger generation people who lost the 'grip' of the language feel that it will die out (16.3.7. p. 176). The variations in the percentage of this feeling is more in Brahmins, Reddiars and Chettiars and less in Naidus and Arundatiyars, because of their respective social status, education and strength of population together.

However, the result and conclusions are based on the individual attitudinal responses of the informants comprising only a section of the total population of each community. Opinion studies are normally not much reliable, and they do not present the real attitudes. Also, since one of the methods of collection of data was by casual conversation', such conversations can influence to change or modify the original

attitudes of the individuals and hence the conclusion drawn cannot be much reliable.

However, the effort of the author is laudable, as he has made a very sincere effort not only to study the language but also the people who speak that language with a lot of data and analysis.

K. Viswanatham
CIIL

EARLY INSCRIPTIONAL MALAYALAM

K. Retnamma, 1/8th Demi, Rs. 350/- (US\$ 35/-), pp. 340

A data oriented report, the book contains 45 inscriptions belonging to the I-IV century Kollam era. This book focuses on the origin and gradual development of the Malayalam language during the subsequent centuries. Historians and linguists will find this analysis helpful in outlining the early period of the Malayalam language.

POINTS OF CONTACT BETWEEN PRAKRIT AND MALAYALAM

M.P. Sankunni Nair, 1/8th Demi, Rs. 400/- (US\$ 40/-), pp. 250

This scholarly work deals with the inter-relation between the Prakrit and Malayalam languages, analyzed in a new perspective. Thorough in citing sources, the author has made a solid contribution to the study of Malayalam.

AUTOMATIC TRANSLATION (SEMINAR PROCEEDINGS)

Harikumar Basi (ed.), Rs.200/- (US\$ 40/-)

This reasonably-priced 200-page book is a compilation of 6 papers by researchers and research groups actively engaged in *machine translation* in India. The elaborate presentation of various approaches to machine translation systems that are already working, and ongoing projects, would benefit students and researchers in the field. Each paper is followed by discussions touching on all aspects of the problem, with active participation of linguist and computer scientists.

DRAVIDIAN ENCYCLOPAEDIA (Vol.1)**V.I. Subramoniam (Ed.), Demy ¼, pp. 728, Rs.500/- (US\$ 100/-)**

The focus of this volume is on the political history of the States south of the Vindhya. The prehistory, the findings in the excavation at Mohenjodaro and Harappa, etc., are completely covered. Every page brims with facts. Illustrative pictures and tables are part of this handsome volume. The source material for history like Veda-s, Sangam literature, epigraphs, etc. have been fully discussed. The contributions to ayurveda, siddha and military sciences are covered with facts. The developments in chemistry, physics and mathematics have also been traced in this volume. Well-produced, it is printed in offset and has attractive get-up comparable to the *Encyclopaedia Britannica*.

DRAVIDIAN ENCYCLOPAEDIA (Vol.2)**V.I. Subramoniam (Ed.), Demy ¼, pp. 926, Rs.900/- (US\$ 180/-)**

A monumental volume on Dravidian people and culture, it has a compendium of new information. It contains 987 entries with maps, line drawings and photographs, 36 tables and 60 pages of index.

ENCYCLOPAEDIA OF DRAVIDIAN TRIBES (Vol. 1)**T. Madava Menon (Ed.) Demy ¼, pp. 378, Rs. 950/- (US\$ 100/-)**

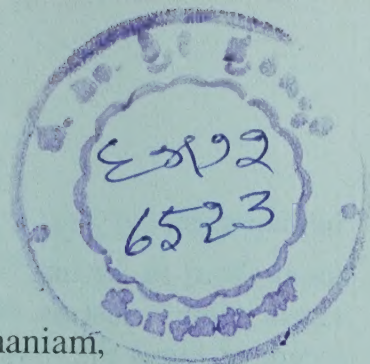
This volume is a thematic introduction arranged in a series of articles on physical anthropology, history, geography and environment, material culture (including economic activities), social organizations, religion, life cycle rituals, etc.

ENCYCLOPAEDIA OF DRAVIDIAN TRIBES (Vol. 1)**T. Madava Menon (Ed.) Demy ¼, pp. 404, Rs. 960/- (US\$ 100/-)**

This volume contains ethnographical reports on the communities of Kerala, Karnataka and TamilNadu, and some communities of Andhra Pradesh. Articles on the languages spoken by some of these communities have also been featured. The communities have been arranged in the alphabetical order of their ethnonyms transliterated into English.

KERALA PANINIYAM OF A.R. RAJARAJA VARMA**C.J. Roy (English Translation), Demy 1/8, pp. 355, Rs. 400/- (US\$ 40/-)**

The original work is a classic in Malayalam grammatical literature. In the late 19th and early 20th centuries, there were no compeers to Rajaraja Varma in any of the South Indian languages. He had an analytical mind. Though well-versed in Paniniyam, he did not follow it blindly. Wherever Paniniyam was not found applicable, he took an independent course of analysis. The translation by Dr. Roy enhances the merit of the original, providing an unambiguous understanding of it with maximum accuracy. An excellent translation of a difficult but most valuable text.



Review

TAMIL NADAIKKAIYĒTU. P.R. Subramaniam,
V. Gnanasundaran et al., under the advice of E. Annamalai, 2001,
Mozhi, Chennai- 600 041. Price: Rs. 125.00

This work is a joint product of three institutions: the Central Institute of Indian Languages, Mysore, Mozhi of Thiruvannamiyur, Chennai, and Tamil University, Tanjavur, and as such should be welcomed. Interaction among scholars is necessary for a high quality work just as the present one and this team work should continue for greater achievements.

The work is mainly intended for students of Tamil who venture to write in Tamil. The mode of exposition is example oriented and as a result, several lists – short and long - are found. It is not altogether prescriptive because in several places alternate solutions are given. Rules are absent because the authors seem to avoid the *Suutras* of Grammars to justify their statements.

A Handbook with rules will be easy to follow by students, young or old. When lists are given, the users have to check repeatedly the pages to find out whether a particular usage is acceptable or not.

When contributions to Tamil are from several scholars drawn from several dialect areas, pronunciations and usages will differ; so also spelling practices. Hence the old grammars have exceptions to rules and yet, the rules helped the students to decide on the acceptability.

The 'American English' by K.L. Menkan is a glorious example of how the modern writers in English take liberties with the English language. A living language with many thousands of contributors will go astray from accepted words of expressions. It is a changing field in which one cannot exhaust all occurrences. What is wrong for one will be acceptable to another and sometimes will be considered as an effective expression if it violates the fossilised structures. One example is James Joyce's writings whose coining of new words is a head-ache to old timers in English writing.

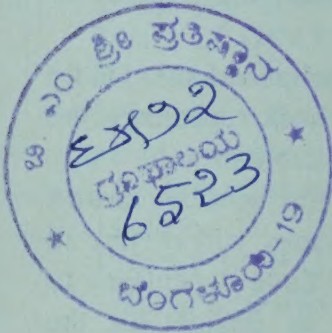
The Handbook under review is careful in not adopting the innovations suggested by literary critics like T.K. Chidambaram Natha Mudaliar. He advocated *kar̥ka* to be written as *kalkka* and *keetka* as *kēlkka*. The consonant clusters like *lkk*, *lkk* have changed to *r̥k* and *tk*. Some languages like Malayalam tolerate the clusters *lkk* and *lkk* and

adopt them in writing. But conventional scholars in Tamil will not accept them. Just as the old timers have their freedom and right to accept or reject the innovations, persons like T.K.C. have the freedom and right to introduce the innovations: Any opposition enhances the merit of an innovation.

The book under review has a few observations which appear to be against conventions. They will be hardly acceptable to classical scholars. Because of that, the innovative stance of the Editors need not be underrated.

A beginning has been made which should be augmented in future editions by more examples and if possible by rules even though they may turn out to be few: even the few will have exceptions.

V.I. Subramoniam
ISDL



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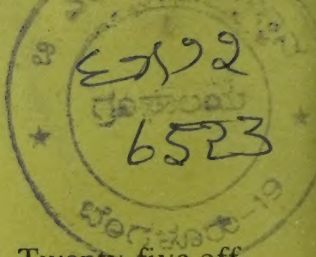
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